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ORIGINAL ARTICLES.

TRAUMATIC INSANITIES AND TRAUMATIC RECOVERIES.*

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WE DO not propose in this paper to enter into any elaborate discussion of traumatism as a factor in the production of insanity. Nor do we propose to elaborate the theory that a traumatic injury of the brain may result in a cure of insanity. We shall simply present for your consideration two cases of mental disease produced by direct injury to the brain, and likewise two cases whose recovery dates from an accidental but severe blow upon the head, and conclude with very brief observations. The cases which we present are rare ones, and we offer them to this association not so much for the purpose of edifying its members, as for the purpose of provoking such discussion as may tend to throw light upon questions which now sit in the shadows of unpenetrated darkness.

The first case is that of W. E. S., number 2207; admitted to the Middletown asylum, in the State of New York, November 17, 1887. This patient was a male; single; age, eighteen; occupation, laborer; education, common-school; habits, temperate, and no record of insanity in the family. When admitted he was in good physical condition, and his history declared that down to the date of his injury he had been a bright boy. During the past year he had been trying to earn his own living, part of the time keeping books, and part of the time working on a farm, in Westchester County.

On the 8th of October, about six weeks previous to his admission to the asylum, while standing on the top of a ladder twenty-six feet in length, picking apples from a tree, the ladder broke and he fell to the ground, striking the back of his head. He was carried unconscious into the house, and remained so for several hours. He remained in bed only one day. A few days after the accident he returned to his home in Delaware County. From the date of his accident to the time of his admission, he is said to have spoken but two or

three words. He could not speak when admitted; but during his entire illness he was able to comprehend questions written upon paper, and would answer these questions readily and rationally in writing. In his writings he states that all spoken words sound like noises to him, but have no meaning. He could hear a low tone of voice, but not a whisper. In writing answers to questions he does so quickly, and shows a clear comprehension. He asks questions intelligently by writing, and says that he has a dull, steady pain from the base of the brain down the spine to the small of his back, and this pain is aggravated by any sudden jar. On examination, the spine from the first lumbar vertebra to the skull was found to be very sensitive to touch and pressure. He says that exercise does not tire him, and he has for several weeks been allowed to do as he pleased. He has spent much of his time out of doors playing with a large Newfoundland dog which became much attached to him, and which attended him when he came to the asylum.

On the 13th of November he became much enraged at his mother who would not grant some request he made, and he flourished a long knife and tried to injure her. On being shut up in a room, he broke the door and was very violent. His friends then had him committed to the asylum under my charge, where he arrived November 17th, 1887.

When admitted his pupils were normal in size, and the reaction was natural. The right pupil was irregularly flattened on the external border, a normal and not a traumatic condition. The tongue was clean and firm, with no muscular tremor; the pulse was 78, the temperature was 98.4; the patient weighed 150 pounds, and seemed generally in a good physical state. He had a good appetite, slept well at night, stated in writing that the pain in his head had ceased; and he deported himself like a bright, good-natured, active boy. But he could not hear distinctly, and he could not speak at all, although apparently comprehending everything that was written and placed before him.

Here was a case of motor aphasia (or aphemia,) resulting from a blow upon the head, with occasional attacks of maniacal excitement; the excitement being displayed by restlessness and ebulli-

* Read before Association of Superintendents of Insane Asylums.

tions of rage, without any ability to give articulate utterance to his emotions or passions.

Although the patient had been allowed to walk about as much as he pleased for nearly six weeks, we concluded it would be better for him to remain quiet. Consequently we placed him in bed and kept him there.

November 19th. Writes on paper that he caught cold last night, and when he coughs it hurts his head. On the 23d, about 9 a. m., he wrote on a slip of paper, "headache," and gave it to the attendant. About 11 a. m. the pain in the head had increased, and at 11:30 a. m. he was rocking backward and forward in bed with both hands pressed tightly against his head, one being over the forehead, the other over the occiput and upon the seat of the injury. His face was flushed, pupils dilated, and the eyes deeply injected. While an assistant physician was noting these symptoms, he suddenly removed his hands from his head, looked up like a person awaking from sleep, gazed about the room in an inquiring manner, turned to the window, looked out for a moment, then suddenly turning to the doctor he said: "Where in the devil am I?" These were the first coherent words uttered since the injury. The patient's mind went back into its normal position with a snap so to speak, just as a dislocated bone returns to its socket when it is "set" by a surgeon. On being asked if he did not know where he was, he said: "Not in the least." "I know I was picking apples when the ladder broke and I fell, striking on the back of my head. Oh, how it hurt!" On being told that it was some weeks since the accident, and that he was in an asylum, he said: "Why, that was on the 8th of October, what day of the month is it now?" On being told it was the 23d of November he replied: "To-morrow will be Thanksgiving Day; a lunatic asylum is a queer place to pass Thanksgiving Day." When he was told that he had not spoken before since coming to the asylum, he said: "I must have been good company." On questioning him he said that he had no memory of anything that had taken place since his fall from the ladder. Six weeks' time had been a blank to him. After he began to talk his headache lessened. He was kept quietly in bed and given hot milk and beef tea every three hours. The headache and tenderness along the spine soon passed away, and no symptoms of brain or mind trouble returned.

He remained at the asylum under observation until the 27th of February, 1888, when he went home in excellent physical and mental condition. While his memory was a blank from October 8th to November 23d, he could after the latter date remember distinctly all the previous experiences

of his life, and all new experiences, but he could never recall any incident that occurred between the days just mentioned.

Now the questions arise: what were the pathological conditions which placed every train of thought in the mind of this young man upon a side track for six weeks, and absolutely blocked all powers of speech and recollection for so long a time? The blizzard of mental obfuscation passed away, and thought moved on again, but the power of recalling those days or incidents which elapsed or occurred during his mental blockade never returned. What subtle forces were at work, and how, when this mind became side tracked and blizzard bound?

Again, while speech and memory were gone, and hearing impaired, the ability to read that which was written upon paper, and the ability to write intelligent replies to questions, remained even in the darkest of the storm. What was the brain lesion that could produce such effects upon the mind as these?

The second case is number 2205. The patient was a female: her age was 37: she was single: and her occupation was that of telegraph operator. She was admitted to the asylum June 9, 1887. Her brother had epilepsy, but no other nervous disease was traceable in her family. Her friends made the following statement: On the 28th of August, 1868, a brick fell from the top of an unfinished building, a distance of about forty feet, a corner of it striking the patient on the vertex, causing a fracture over the center of the longitudinal sinus, depressing the bone at the seat of the injury and extending the fracture forward to the frontal bone and backward along the sagittal suture. A trephine was introduced just anterior to the fracture, and a large fragment of the bone was removed with forceps. Following the withdrawal of the bone there was a profuse hæmorrhage of venous blood, which indicated that the longitudinal sinus had been wounded. The hæmorrhage was controlled with but little trouble, by compression. The patient became unconscious at the time of the blow, and unconsciousness remained only until the depressed bone was removed. The patient made a prompt recovery; her temperature and pulse never rising above 100.

This patient continued to enjoy good health until February 19th, 1887, a period of over eighteen years, when she suddenly became maniacal for no apparent cause. On Sunday, May 8th, the physician in charge of her case concluded that the cause of this maniacal outburst was depressed bone. She was therefore placed under the influence of anæsthetics, and again the skull was trephined.

Besides the button of bone, there was removed a depressed portion of the skull one inch wide by about two inches in length. There was no especial change in the patient's condition after the operation, until May 28th, when she became quieter and rather more rational. This improved state continued until June 5th, when she again became intensely restless and at times maniacal.

Upon her admission to the asylum at Middletown, June 9th, 1887, she was very weak physically, her temperature was 98.2, her pulse 84, her pupils were contracted; the patient weighed about 95 pounds. She was very restless and destructive, throwing her arms about and singing in a silly and incoherent manner. At times she would cry very noisily, but without shedding any tears. Her remarks were constant, rambling and incoherent; but if asked a question which could be answered by yes or no, she was able to reply intelligently when spoken to rather forcibly. Her memory was very poor; she was unable to tell where she came from, where her home was, and she professed inability to tell her own age. (As she was nearly forty and unmarried her unwillingness to tell her age was neither surprising nor irrational.)

She repeated frequently: "I am Vice Chancellor of the Academy," and "wash and be clean." On the vertex there was a depression about three-fourths of an inch deep, two and one-half inches long, and one and a half inches wide, the seat of the recent operation for depressed bone.

June 16th, the record says that she was somewhat more quiet, still she is at times very emotional, and she says that things confuse her. June 23d. Seemed quite rational for a short time; her memory returned temporarily; she acted more natural than at any time since her admission. Her noisy periods became gradually less frequent, and she was able to talk more coherently, but for a long time she continued to mistake the identity of those about her. July 6th. She was again violent, striking at those around her, noisy, singing, scolding, and talking incoherently. July 21st. She talked in a silly manner and repeated words of those who addressed her; she also talked in rhyme.

From being noisy, and incoherent, and silly, she became somewhat depressed, anxious, and apprehensive. Toward the latter part of August she brightened and became more cheerful; and on the first of September she is recorded as feeling much better, talking and acting in a more natural manner. October 1st she began to be homesick; she also talked pleasantly, acted in a ladylike manner, and her mind grew steadily stronger. November

21st she began to menstruate, for the first time since admission. From this time till the 9th of June, 1888, she made slow but steady progress towards recovery. She left the institution weighing 113 pounds, a gain of 18 pounds since admission, and both mentally and physically she seemed entirely restored to health.

We have given two cases of insanity produced by traumatic injuries to the brain. We shall now present two cases of recovery in the midst of insanity, as, apparently, the direct and immediate result of severe injuries to the brain.

Number 356, was admitted to the Middletown asylum July 10, 1877. The patient was a male: 24 years of age; single; clerk; common-school education; no insanity in the family. He was suffering with the seventh attack of mania. He had been insane about three or four weeks previous to his admission to the asylum at Middletown. He had been in other asylums six times, and each asylum visit had lasted from three to eighteen months. On admission, he was noisy and restless. The first night he did not sleep, but devoted his energies to tearing up his clothes. He admitted that he was addicted to masturbation.

On the 12th of July, two days after admission, he was tearing his clothes, talking loudly, and eating soap whenever he had an opportunity. At 3 p. m. he tried to swing on a gas-fixture in a wash room, and turn a summersault through his hands; but as he swung his feet up to his hands, the gas-fixture broke and he fell, striking his head and shoulders upon a tile floor. He got up, walked about, and talked for about twenty minutes afterwards; then he became suddenly unconscious. His breathing was stertorous, his pulse 80, and very strong; and his pupils appeared about normal in size. Soon the face became purple in color, and the muscles of the right side of the mouth twitched; the pupils were insensible to light, the eyeball insensible to touch; and there was diverging strabismus. At 4:30 p. m., the right pupil was more contracted than the left. At 6 p. m., the pupils were normal, the pulse was 80, the patient was groaning, and he spoke confusedly of feeling badly in the left groin. At 9:15 p. m., the pulse was 72, the urine had been passed freely; the patient was very drowsy with occasional muttering delirium. On the 13th the pupils appeared normal; the pulse was 80; the urine and feces were voided without difficulty; the patient was able to talk, and complained of headache on the top of the head. He slept most of the time that day. On the 14th he seemed to have recovered very largely from the effects of the fall, and on the 15th, three days after the injury, he talked

and acted sensibly, and he continued to do so as long as he remained under our observation. He remained willingly at the asylum until the 14th of September, about two months from the date of admission, when he was discharged as recovered. Three and a half years after he left the asylum I met his family physician, who told me that this patient had experienced no return of insanity, and that he was one of the most active and reliable business men in the town where he lived.

Here was a case that suffered with seven attacks of insanity in a period of nine years. His previous attacks had lasted from three to eighteen months each. The period of recovery ranged from six to twelve months. He was entering upon his seventh attack when he received the injury, and, judging from the past, his insanity should extend over a period of from three to eighteen months. But this blow upon the head apparently caused a recovery in three days; and this recovery continued for at least three and a half years; and, so far as I know, it may have continued during the past eleven years.

The question now arises: how could a blow upon the head destroy the pathological tendencies of years, and set up a permanent and happy physiological state?

The fourth case which we shall present is number 1204. This patient was admitted to the asylum October 12th, 1882. His age was 38; he was a carpenter; a widower; in reduced physical condition; and intemperate in his habits. He was in the army, where he drank freely, and contracted syphilis. For the past six years he has suffered with catarrh of the bladder. At times, as a consequence, he has been unable to work at his trade. He has indulged freely in sexual luxury, but has drunk none since the war. He left Syracuse for the Hot Springs of Arkansas in August, 1881, for treatment of his bladder difficulty. Before starting for this place he was told that the people there were rough, and this made him feel apprehensive. At the Hot Springs he bathed daily at what was called "the mud hole," but was not benefited. At a local election he made some remarks about the men on the tickets which gave offense to some of their friends, and they in his presence used language calculated to intimidate him. He began to think that they intended to injure him, and that he was being shadowed. As soon as possible he left there and returned home. During the entire trip, and after he reached home, he continued to imagine that he was being followed by men he had seen on election day at the Hot Springs. And after his admission to the asylum he still continued to imagine that he saw them and

that they were trying to shoot him. He was so suspicious that when walking about the grounds if he saw two or three men approaching the asylum he would run for the building, go into the ward, go to his room, and crawl under the bed, in order to secrete himself from his fancied enemies. At night he would take the mattress from the bed and place it directly in front of the door, and sleep on his back so as to be able to catch anybody who should open the wicket of his door and try to shoot him.

He did not improve in any way until the evening of December 23d, 1885, about two and a half months after admission, when he was struck over the head by a fellow patient with an iron chamber. The wound thus inflicted was one and a half inches in length, and was in the median line over the union of the frontal and parietal bones. It bled freely. When the wound was dressed he was laughingly told that it was to be hoped that his delusions had been knocked out; to which he quietly replied, "perhaps they have been." He rested well during the night, and in the morning was entirely free from all delusions and apprehensiveness, so much so that he was ashamed of his past fears and refused to talk of them. As soon as his delusions were gone he began to gain in flesh and strength, and on the third of March, 1886, he went home in excellent mental and physical condition. He has remained well for six years, with the exception of one brief illness.

These cases of recovery from insanity, by means of blows upon the head, are exceedingly interesting, on account of both the suddenness, and the permanence of the restoration.

While we have intended simply to present for your consideration a few rare and peculiar cases of insanity, caused or cured by traumatism, we cannot refrain, in closing, from presenting a few facts developed by our own experience, and the observations of others.

Dr. Skæ made an elaborate study of traumatic insanity, and believes that this form should be a distinctive one, and that "it is characterized by maniacal excitement; by irritability and suspicion; by delusions of pride, self-esteem, and suspicion; and by the development of homicidal impulses." He also claims that traumatic insanity is rarely recovered from.

Dr. Clouston claims that the general mental symptoms of traumatism and sun-stroke are apt to be alike; and says that there are speech difficulties, hemiplegias, muscular weaknesses, hallucinations, and even "an inability for the exercise of any kind of mental or bodily powers."

Dr. Blandford finds in such cases an excitability

of nerve function and transient attacks of mania, with subsequent recovery. Cases in which the insanity comes on slowly and insidiously seldom recover, in his opinion.

Bucknill and Tuke have observed that traumatism may produce melancholia, mania, dementia, senile dementia, and even idiocy, when the injury occurs in infancy. He also asserts that the physical symptoms of general paralysis may follow traumatic injuries of the brain while the memory remains perfect, and the mind continues normal in its action.

Spitzka observes that "the most serious psychoses resulting from traumatism develop months and years after the injury." This assertion corresponds with the fact that insanity occurred, in one of the cases we have described, over eighteen years after the skull was fractured by a brick.

In the cases we have presented, and in others which have come under our observation, we have noticed that the leading characteristics are restlessness, incoherence, vivid hallucinations, mistaken identities, muscular weakness, heat in the head, and at times a besotted, half-drunken, dazed expression of countenance. As to the pathological states in traumatic insanity, Dr. Skæ holds that there is a chronic hyperæmia of the brain and its membranes; while Dr. Blandford asserts that we have "to deal with a minute molecular change—a change which may be due to contusion of the gray matter, caused by a blow or fall, and producing an alteration in nourishment and growth of the part, in blood supply, or in the nerves presiding over it."

Clouston states that he has seen about twelve cases of traumatic insanity in nine years; and concludes, therefore, that "accidents to the head do not loom largely in the production of the insanity of the world." J. Crichton Browne, on the other hand, suggests that brain injuries, inducing insanity, occur at all periods of life, from forceps deliveries to the accidents of old age. We believe that many of the brain injuries sustained during childhood are forgotten; and consequently when insanity occurs, this subtle and remote cause does not figure in the history of the case; and in old age these injuries are concealed by the pride of the victims. After a careful inquiry as to the general experiences of numerous patients, we have come to the conclusion that many insanities properly date their inception from a blow upon the head, inflicted during the growing and tender or later periods of life, and resulting in minute and long-continued pathological changes in the brain. Almost all cases of epilepsy are ag-

gravated by brain injuries which inevitably result from the disease.

The practical lesson which may be drawn from the foregoing conclusion is that since the brain is the most important portion of the body, it being the acknowledged organ of the mind, it should be cared for in the most scrupulous manner; and injuries to this organ, either by the unskilled use of the forceps during delivery, or by blows of the hand, or other weapon, by nurses, parents, teachers, or guardians of the law, or accidents through the weakness and carelessness of old age, should be religiously avoided and guarded against. Especially, the hand of the parent or nurse, or the ferrule of the teacher, or the club of the policeman, should never be allowed to fall upon the heads of the young. There should be legal enactments against injuring the brains of adolescents by those who have them in charge.

On the other hand, the experience of a fortunate accident may suggest the possibility of an appropriate joggling of the brain of a maniacal patient back into the grooves of normal mental action by the judicious application of sudden force.

Tradition asserts that a silver hammer figures in the death of every Pope of Rome, in order that each successor of Saint Peter may pass into the final shadow in a manner that shall imitate the taking off of the martyr apostle.

There are forces which destroy life, and there are forces which conserve and continue human existence and human usefulness. Such forces are not yet fully discovered. Time and new experience will unfold many marvelous things. Apples of truth are still falling; experimental steam is still escaping; and the untold powers of lightning are still flowing in steady or interrupted currents. Fame and fortune still wait for the coming of future Newtons, and Watts, and Franklins. Who can say that the human mind, when stripped of its beauteous and wonderous powers by the rough hand of insanity, may not be rehabilitated in the golden Cestus of renewed health by the might of judiciously applied force? Here is an opportunity for philosophical experiment by some coming genius whose wisdom shall be like Solomon's, and whose power for compelling health shall rival the forces imprisoned in the hand of a Thor, or demonstrated by the huge hammer of a Vulcan.

To those who doubt, and to those who disbelieve in undiscovered possibilities, we may prayerfully suggest that

"There are more things in Heaven and earth, Horatio,
Than are dreamed of in your philosophy."

OBSERVATIONS ON RAILWAY INJURIES.

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PART II.

III.

THE SYMPTOMS ATTRIBUTED TO CONCUSSION OF THE SPINAL CORD.

DURING the past few years investigations have shown that the expression "concussion of the spine," employed to designate a class of symptoms sometimes observed after certain injuries, more especially those sustained on railways, is both misleading and inaccurate. The variety of injuries so designated at one time occupied a very prominent position before the attention of the profession; frequently having figured in the courts of law, especially in Great Britain, as the cause of a long series of physical ailments and consequent litigation, it became also, not only a familiar theme to the legal profession, but excited public interest as well.

The impression was produced that the spinal cord was peculiarly liable to concussion as encountered in railway accidents, and as these ideas were brought before the attention of the public, suits for damages became more numerous and payments of large sums of money increased in proportion as the new disease, "railway spine," became known.

The work of Mr. Erichsen, as is well known, contributed more than anything else to establish these views. Coming as it did from such an eminent source, it naturally commanded respectful attention, but none the less called forth the harshest criticisms and expressions of dissent. Mr. Erichsen's views dominated for several years, but a more impartial study of the subject, and a closer individualization of cases by later writers, has shown the error and groundlessness of his position.

Under the head of concussion of the spine has been grouped a class of symptoms which are frequently manifested after railway accidents, yet are by no means exclusively confined to these unhappy events; and in spite of the fact of the relation of these conditions to accidents of this nature, but a small proportion are in reality due to concussion of the cord, and even these are of a most doubtful character, partaking not a little of the nature of a Scotch verdict.

"Concussion of the spine," or, discarding the misnomer, of the spinal cord, is a lesion recognized by many writers on surgery and nervous diseases, yet almost entirely so on hypothetical

grounds. "In many cases," says Erb, "its diagnosis is so uncertain, and the want of satisfactory evidence from autopsies so great, that the history of the disease is still surrounded by darkness."*

It is claimed from analogy that, as the brain is subject to concussion, so likewise is the cord. There being no pathology for a groundwork to account for concussion of the spinal cord, we have been told to look for an explanation of the phenomena attributed thereto from their analogy to cerebral concussion, both from an anatomical and symptomatic point of view. Concussion of the brain is defined by Mr. Jonathan Hutchinson "as limited to a shake of the cranial contents without any structural lesion of importance."† This view, we believe, is that generally accepted by the profession, and substantiated by facts. If the analogy be wholly new, the same definition should of course apply to the contents of the vertebral canal. Hence, from a theoretical point of view, we find concussion of the cord described by Ross‡ as "to include cases in which traumatic injuries occasion severe functional disturbance without the production recognizable changes."

In order to ascertain the closeness and truth of this analogy, let us first compare briefly the anatomy of the brain and spinal cord. The cranium, a hollow sphere with dense elastic walls, is capable of transmitting vibrations in any and in all directions. When a blow falls upon its outer surface, vibrations travel in certain especial directions, depending upon the force and locality of the blow. There being nothing to break the force of the vibration, the transmitted force or concussion may be both general and direct. The brain completely fills the cranial cavity, and its dura mater is attached closely to its walls. The substance of the brain is a pulpy, inelastic mass, entirely incapable of vibrating in harmony with its elastic bone covering. It is therefore readily understood when the cranium sustains a blow from any cause, and its walls are set in rapid vibration, the full force of the same fall upon the inert mass of the brain, concussing its substance and compressing its peripheral fluids and hemispheres against the elastic walls of the cranial cavity. It is not difficult, therefore, to comprehend how the delicate fibres of brain tissue can suffer great damages from such a cause.

The vertebral column, on the other hand, is a long, flexible hollow tube, composed of many bones. These bones are much thicker than those

* "Ziemssen's Encyclopedia," vol. xlii.

† "Illustrations of Clinical Surgery," vol. i., p. 86.

‡ "Diseases of the Nervous System," vol. ii., p. 216.

of the calvarium, and are strengthened by the processes; moreover, between every two there are the outer vertebral cartilages, which act as "dampers" or "buffers" in preventing the transmission of force. "In the skull," says Quain,* "the dura mater is intimately attached to the foramen magnum, but within the vertebral canal it forms a loose sheath around the cord (theca), and is not adherent to the bones, which have an independent periosteum. Towards the end of the canal a few fibrous slips proceed from the outer surface to be fixed to the wall of the vertebral canal. The space intervening between the walls of the canal and dura mater is occupied by loose fat, by watery areolar tissue, and by a plexus of veins.—The pia mater is thicker, firmer, less vascular and more adherent to the nerve matter; its great strength is owing to its containing fibrous tissue. At the base of the brain and in the spinal cord there is a wide interval between the arachnoid and pia mater—in the spinal canal this surrounds the cord, forming a space of considerable extent." It is in this space that the cerebrospinal fluid is contained. The cord is held suspended in position by the fibrous substance of the legamentum denticulatum. Besides the protection afforded by the vertebral column, and its peculiar arrangement therein—the cord is further guarded by the additional strength afforded by the dense layers of muscles and ligaments which surround it. In the neighborhood of the cauda equinae, there is somewhat less protection and less space between the substance of the cord and the walls of the canal; the spinous processes, however, compensate for this deficiency by being much thicker and heavier. It will thus be observed that anatomically the cord is even more securely protected than the brain. It naturally follows, therefore, that the force of a blow on the vertebral column must be much less likely to produce concussion of its contents than the same would, when falling upon the skull. Experience has shown this to be true, for the rarest of all injuries is concussion of the spinal cord.

An example showing the powerful manner in which the spinal marrow is protected is given by Bramwell,† in the case of a man who was jammed between the platform and a train, sustaining fatal injuries, and dying at the end of thirty hours. Post-mortem examination revealed, besides rupture of the duodenum, also rupture of both psoas muscles, which were rolled up in the pelvic cavity. There was no external evidence of injury. The cord and membranes were perfectly healthy. "It

is needless to say they were most carefully examined." Here was a blow in the back sufficiently severe to rupture both psoas muscles, yet the spinal cord escaped.

Dupuytren* recognized three classes or types of concussion of the brain divided according to the severity of the symptoms. The first class were those where the symptoms were transitory, lasting only a few moments; second, those where the symptoms were at once marked in severity, and continue so for two or three days; there is loss of consciousness, general prostration and paralysis of the sphincters. The third class, those where the condition is fatal, death following shortly after the injury, and almost invariably brain lesions are found.

The symptoms attributed to concussion of the cord, on the other hand, have been generally so arranged as to render a classification analogous to the above somewhat strained. They may be said, however, to constitute the four following groups:

- (1). Those cases where the symptoms are at once very grave and are attended with severe forms of shock, death following in a short time.
- (2). Those in which the symptoms at the time of injury are severe, the shock being comparatively slight, or none at all; these cases terminate shortly in recovery.
- (3). Those in which the symptoms are severe at first, with a more or less protracted illness; recovery doubtful.
- (4). Those in which there are no immediate manifestations of disturbance, the patient appearing in fair or slightly impaired health for a longer or shorter time after the accident, but show progressive disease of the cord and its membranes develop.

Let us examine, separately, each of these several conditions. The first certainly corresponds to Dupuytren's third division, and represents those supposed cases which terminate fatally in a day or two; cases, we must bear in mind, in which there is no visible lesion which would necessarily occasion death. Mr. Page† says: "We know of none which can be placed in this division which may not be said that death was caused by some irrecoverable shock, or in which some serious structural damage has not been occasioned to the cord by pressure of the displaced vertebral column, or which (as in the cases of Mayo and Gull) there has not been some rupture of vessels, the bleeding from which has rapidly annihilated the real function of the spinal cord." It is certain that the cases that can truly be placed in this

* "Quain's Anatomy," 8th edition, p. 520-572.

† "Diseases of the Spinal Cord," p. 361.

* "Cooper's Medical Dictionary," vol. I., p. 907.

† "Op. Cit.," p. 56.

category are very scarce and difficult to find, if indeed they exist at all, for many of those which have been so classified include lesions of a structural nature, and cannot, therefore, be said to be examples of concussion.

Dr. John Lidell* gives two instances of sudden death which he attributed to this cause, but of which, however, involved other and fatal structural lesion, sufficient in themselves to cause death; hence they cannot be said to be instances of concussion of the cord, as the expression of this injury is now understood. This term, however, has been very loosely applied, and is often intended, apparently, to imply more than it really means. We all know that fracture of a vertebræ may take place, causing the most serious and fatal results, and yet give no external evidence of its existence. May not some of the supposed fatal cases of spinal concussion be due to this condition? In view of the fact of the possible existence of this phenomenon, it is evident that in cases of supposed to be this nature that an autopsy is the only means of correct diagnosis, and in no instance could sudden death be said to arise from concussion of the cord unless all doubts had been removed by the post-mortem table.

The second group corresponds to the first division of Dupuytren, and theoretically includes all supposed cases of concussion of the cord when the symptoms are transitory. Speaking of this aspect of the subject, Mr. Page says:† "It must be remembered that we are not dealing with cases of general motor or sensory influence in severe shock after falls and like accidents, where it might be said that the whole cerebro-spinal system has been concussed, and some of the symptoms due thereto—what we are looking for is transient paraplegia or annihilation of the functions of the cord by a blow upon the spine, communicated to the spinal marrow." There does not appear to be a case on record which can indisputably be said of this type; if such exist, they must be of extreme rarity. Mr. Page claims that there are none, while Dr. Wilkes,‡ on the other hand, says he has seen several instances where paraplegia has followed injury to the back, which terminated in recovery within a few days, and which he regards as due to concussion; he does not give particulars of the cases.

This brings us to the consideration of the most important and practical part of our subject—the third and fourth classifications. The former including those cases when the symptoms are se-

vere at the time of injury, followed by a more or less protracted illness, rendering recovery doubtful, may be said to bear some slight analogy to the second group of Dupuytren's classification of concussion of the brain. The latter including those cases where the appearance of symptoms are delayed, but where chronic diseases of the cord and its membrane is alleged to slowly develop, finds no analogy in any form of brain concussion.

Under one or the other of these two divisions are found most of those cases which have been the cause of so much discussion and litigation, and which enter so largely into Mr. Erichsen's book.

The third group, including not only many of the "railroad" cases, but also the results of those accidents to which laborers and certain artisans are exposed, as well as those mishaps to which all in every day life are liable, is familiar to most surgeons, especially those engaged in hospital practice. This condition being attended with severe symptoms at the onset, paraplegia and its concomitant symptoms with greater or less intensity, it is frequently difficult at first to determine the exact nature of the injury. Whether this has been an abrupt twist or severe wrench of the vertebral column, which has contused or lacerated the cord or its membranes, or some form of hemorrhage, or again some other varieties of severe structural lesions, which give no evidence of the presence, the subsequent history of each case must determine. If in such instances recovery rapidly ensues, it is assumed that the case, in absence of other lesion, was one of concussion of the cord. This negative method of diagnosis may yet be substantiated by definite data, but certainly at present it cannot be accepted especially as there are many other conditions which present the same symptoms as those attributed to concussion of the cord, yet are independent primarily of every lesion in that organ, and must be different therefrom. Here we must include cases of acute meningitis and myelitis, which have said to arise from concussion, and where the symptoms of inflammations are immediate, as well as those where there is a brief interval before the appearance of inflammatory disturbances. Traumatic inflammation of the cord and its membrane we recognize as an exceeding grave disease, but that such conditions have been produced by simple vibratory jars of the spinal column as induced by railway accidents, is more than doubtful, and as yet unproven.

From the frequency with which certain types of those cases have formed the basis for litigation,

* "Ashhurst "Encyclopædia of Surgery," vol. iv., p. 788.

† "Op. Cit.," p.

‡ "Diseases of the Nervous System," p. 291.

and from the large amounts which have been paid in damages, the natural inference has been, and to a certain extent is now, among lawyers, that many such unfortunate results are caused by railway and other accidents. That such a conclusion is not substantiated by facts and recent writers on the subject, it is not difficult to show. "While clinical observation,"* says Lidell, "has shown that inflammation of the brain and its meninges is exceedingly apt to follow injury of the cranium, it is also shown that inflammation of the medulla spinalis, produced by injury of the vertebral column is of very rare occurrence." Dr. Bramwell's views on this subject are as follows: † "Cases included under this group are very rarely met with after railway accidents. In some, and these constitute the majority of severe and rapidly fatal cases, the spinal column is fractured or the vertebrae dislocated, the myelitis, meningitis or acute compression being due to crushing or laceration of the cord and its membranes by the displaced vertebrae, or the pressure of extravasated blood or inflammatory products." In view of the fact that fracture or dislocation of a vertebrae may occur without giving external evidence of its pressure, Dr. Bramwell also says: "In severe and rapidly fatal acute traumatic myelitis or meningitis, especially of the dorsal or lumbar region, a fracture or dislocation should be suspected, even although displacement and crepitus are wanting."

As sudden paraplegia from violence applied directly to the vertebral column, or from a forcible shaking of the same, without external evidence of structural lesions, is not uncommon, and as it has been asserted concussion of the cord as a cause of this condition is not only of rare occurrence, but its very existence is still unproven, let us inquire into the nature of the injuries of the back, which may give rise to those phenomena which have so frequently been indiscriminately classified as symptoms of concussion of the spine.

Abrupt bends or severe twists of the vertebral column may take place, inflicting most serious damage of the cord, and even death, yet give no external evidence of injury. A case of Sir William Gull ‡ illustrates this point; a porter, strong and healthy, aged thirty-three, while going down-stairs with a sack of coal upon his back, slipped and fell. In falling the sack fell upon him. Paralysis of both legs, left arm and sphincters and hyperæsthesia immediately followed. Death occurred at the end of thirty-four hours. At the post-mortem ex-

amination no external trace of injury was revealed. The membranes of the cord were healthy, but opposite the fourth and fifth cervical vertebrae the cord was contused. On section the left posterior horn of gray matter and the adjacent parts of the lateral and posterior column contained ecchymosed points. On opening the canal after removing the cord nothing abnormal was discovered in the bodies of the vertebrae opposite the lesion of the cord, but on dissecting off the posterior ligament it was found that the body of the fourth vertebra had separated from the fifth, and that the left articular process of the fourth had been chipped off by pressure of the lower vertebra upon it. This case is reported under the title of "Concussion of the Cord in the Cervical Region from Direct Violence." It is obvious that this does not fully express the condition, for it is evident that the functions of the cord were annihilated by a bending or wrench of the vertebrae sufficiently severe to separate the bodies of the vertebrae and seriously contuse the substance of the cord.

Dislocation of a vertebra without appreciable deformity is recognized as possible, and in some instances a probable occurrence. In this condition the displaced vertebra is pulled back into its normal position by the resiliency of its ligaments, but none the less crushes and lacerates the cord and its membranes. We give from Mr. Hutchinson* a case which bears upon this phenomenon, which Mr. Page also quotes: A sailor was thrown against a skylight, striking, it was supposed, his head. On recovering consciousness he had intense pain in the back of the neck, and the lower limbs and arms felt numb and powerless, and the mouth drawn to one side. Three months afterwards he was admitted to the hospital, and was then able to move the legs, but had to use the hands to assist in supporting himself. The bowels were constipated, and there was no power to retain the urine. Under galvanism he greatly improved, and left the hospital at the end of two months. In commenting upon the case, Mr. Hutchinson* says "he was inclined to think that the paraplegia, having been almost coincident with the injury, dislocation of one of the vertebra might have occurred, causing injury to the cord. He had seen several cases where such dislocations † had occurred, and where the vertebrae had easily returned into their places; so that it was only upon very careful post-mortem examination that the diagnosis could be verified."

Le Gros Clark, in his lectures on the "Principle

* *Am. Journal Med. Sciences*, October, 1864.

† "Op. Cit.," p. 360-1.

‡ "Guy's Hospital Reports," Case xxiii., vol. iv., p. 191, 1858.

* *Med. Times and Gaz.*, vol. i., p. 348, 1879.

† Italics not in original.

of Visceral Diagnosis,"* discussed the subject of concussion of the cord, and regards its analogy to that of the brain as justifiable, because of the symptoms being relatively similar, at the same time after mentioning two cases of paraplegia, from falls where the symptoms disappeared within a few months, says: "I cannot dismiss from my mind that in these and similar protracted cases there is something more than simple concussion needed to account for the duration of the symptoms; probably extravasation of blood into the theca or canal, which is slowly absorbed." Hemorrhage beneath the meninges of the cord or into its substance are possible, and probable lesion in certain severe forms of injury of the back. The former is attended with immediate symptoms of paraplegia, and in many instances is followed by complete recovery. In the later variety, the paralysis may appear with equal suddenness immediately after the accident, or there may be a brief interval—a few hours or a day—during which time, however, there are undoubted indications pointing to spinal lesions.

Inasmuch as in some forms of traumatic paraplegia, there are just as stronger, and even stronger grounds for assuming that there has been meningeal hemorrhage, as there are for the diagnosis of concussion of the cord, we will have to wait until pathology has thrown more light upon this subject before forming definite opinions. At present, the well-known absence of post-mortem evidence in regard to spinal concussion, leaves much to hypothesis; there can be no doubt, however, that cases of traumatic paralysis in some instances have been occasioned by hæmorrhagic, which have erroneously been attributed to concussion. "In speaking of this matter," says Bramwell,† "it must be remembered that such extravasations are with difficulty produced, and that the spinal cord is probably the most securely protected organ in the body."

SALIX NIGER (BLACK, OR "PUSSY" WILLOW).

By E. M. HALE, M. D., CHICAGO, ILL.

THIS species of willow appears to have some peculiar properties not belonging to others of the genus. All, or nearly all, are bitter and astringent, and contain an active principle called *salicin*, which has some antiperiodic properties, and is a general tonic. Salicylic acid is a derivatation of salicin.

* P. 145.

† "Op. Cit."

Nothing in the history of medicine is more mysterious than the origin of the domestic or medicinal uses of plants by the laity. It is as undiscoverable as the identity of the first man who swallowed an oyster. In my investigations relating to the medical history of plants, I have traced their uses back beyond anything found in medical annals.

Whence came the knowledge by the people of the use of *aletris*, *cimicifuga*, *viburnum*, and *hydrastis*, in diseases of the female generative organs? At a time when the dispensatory and classical *materia medica* were classing the above simply as "tonics," "alteratives" and "nervines," the common people in the country, and the pioneers who were reclaiming the far western forests and prairies from the aborigines, were using those plants for dysmenorrhœa, amenorrhœa, leucorrhœa, and as remedies against threatened miscarriages and painful labors. How did they get this knowledge? It was not intuition! They did not get it from physicians. Did they get it from Indians? Some of the most careful observers of aboriginal life declare that the Indians did not use any one plant as a medicine for any special complaint, but generally mixed in a decoction many of which they found in the locality of their camps. Others, like Barton, Howard, Bartram and Porcher, assert that the earliest knowledge of indigenous plants were gained from the Iroquois, Cherokee, and others of the most intelligent tribes.

It is a fact that some of the Indian names of indigenous plants, when translated, refer to their supposed medicinal qualities. "Uncum" was a name for *senecio*. "Cohosh" was applied to all the species of *actæa*, and *caulophyllum*. It is said to mean "the root for squaws." It is unfortunate that the meaning of nearly all the aboriginal names of plants is forever lost.

The name given by the Indians, all through the temperate regions of North America, for the bark of the willow was "Kinnikinic," but what was the real meaning of the name I could never ascertain. They used it to mix with tobacco, or alone, to smoke in their pipes.

The above observations have a bearing on the remarks concerning certain therapeutic effects obtained by the use of the *salix niger*. I allude to the *anaphrodisiac* powers belonging to this drug. The officinal tincture or fluid extract is now made from the buds (aments), called by children the "pussys," owing to their furry or fluffy appearance. It has a bitter and astringent taste. (An excellent tincture is made by Parke, Davis & Co., of Detroit.)

Now the question arises, how did the anaphrodisiac properties of these buds first become known? When I was a young boy, it was a common remark among my boy companions, that if you eat too many of the buds of the pussy willow, they will prevent you from becoming a man! In other words, there was a common belief that they would depress or destroy the sexual power. When I became older I heard the same remarks from men, and from some old women herbalists. My father was a physician, and I have heard men ask him if he knew of such a power possessed by willow buds. He laughingly declared that it was a mere vulgar belief; but he had no special fondness for investigations into the properties of our indigenous drugs, and never paid any attention to this drug.

But where did this belief originate? Shall we say—among the aborigines? What use could the American Indians have for such drug properties?

Did they ever find it necessary to depress the sexual instinct? We know, according to historians, that nearly all tribes used a "black drink" in their religious and warlike dances and ceremonies. Did the buds of the black willow form one of the ingredients?

The Indian priests may have made use of them. Perhaps the "medicine men" knew of its properties. The priest and physician among the aborigines, was a combined profession.

I do not know how extended was the condition of celibacy among the Indian priests, but I know that it was obligatory in some tribes.

We know that among the Greeks and Romans both priests and priestesses were sworn to a life of absolute sexual purity. It is recorded that the vestal virgins slept on beds made of the leafy boughs of *agnus castus* ("chaste tree"), and the flowers of the *nymphaea* ("water lily"). The priests are said to have drunk infusions made from the above plants. The same is said of the priests and vestals of Egypt, and of the Aztecs of old Mexico.

The Indians of Central America, and the West Indian Islands, punished adultery by forcing the culprits to drink a decoction of the *caladum*, to destroy sexual power. The Druids used *conium*.

But the mystery which surrounds the first knowledge of such properties in any plant, is as unsolvable as ever.

In King's Dispensatory (eclectic) mention is made that "the buds of the black willow are said to possess anaphrodisiac properties." The *Amer. Disp.* states that they are of value in spermatorrhoea.

During the last few years several communica-

tions have appeared in medical journals, recommending the *salix niger* in diseases of the female sexual organs. It is suggestive that all, or nearly all, the species of willow contains *salicin*. Now *salicin* has been highly recommended in sexual erethism, and its use in doses of 5 to 10 grains is asserted to abolish temporarily the sexual appetite. *Salicylic acid*, and its salts, all have the same effect in large doses. *Salicin* is made from the bark of the willow, and some of the reporters who used the *salix niger* used a tincture of the bark of the shrub and its roots. It is probable that all parts of the plant possess the same properties. Dr. Culpepper's "English Herbal," 1681, says: "The leaves, bruised and boiled in wine and drunk, stayeth the heat of lust."

The first physician who reported his experience with *salix niger* was probably Dr. F. T. Paine, of Comanche, Texas, who uses it for incipient ovarian disease, masturbation, etc.

Soon after appeared articles from other physicians in this country. The English physicians reported of its use. In the *British Medical Journal* for July, 1887, Dr. J. Hutchinson has a paper. In the *London Lancet* for Sept., 1887, Dr. E. H. Tenwich states, that he has found it "a sexual sedative of decided value; useful in ovarian hyperæsthesia, prostatorrhoea, spermatorrhoea, seminal emissions, and enforced continence."

Dr. Hutchinson writes: "In many women pain in the ovarian region is a constant attendant upon the menstrual epoch. In some this is due to organic disease, but in a large number it is one of the manifestations of the neurotic temperament.

Such cases are met with in all degrees of severity, from a slight amount of discomfort along with indications of globus hystericus up to hystero-epilepsy in its most pronounced forms. It has always been a slur upon our profession that, when a method of treatment becomes popular or fashionable, other methods are entirely discarded.

At present, massage and isolation from relatives is the popular mode of treatment, and drugs occupy a secondary place, if, indeed, they have any place at all.

Pecuniary difficulties, however, stand in the way of isolation or massage ever reaching the masses, and drugs will always be in employment.

Several drugs are in daily use against this ailment, but with only partial success, and it is with the view of bringing before the profession a remedy which in my hands has produced results which I never had before while I was employing the bromides, valerian, assafoetida, etc., that I have sent this short notice.

In the "Transactions of the Texas State Medical Association," Dr. Pain reports many cases treated successfully with the drug.

He prescribed it in cases of ovarian hyperæsthesia, uterine neuralgia, etc., and also in spermatorrhoea, nocturnal pollution. His verdict on the drug is that it is a powerful sexual sedative, similar in its action to bromide, but without its depressing qualities. I obtained a supply of the fluid extract and have been employing it for some months.

The most numerous class of cases in which I exhibited the drug were women of a nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when, along with the general malaise, is added a very decided pain in one or other ovary.

They also suffered from hemicrania, the pain being situated above the left eye-brow, and resembling the feeling as if a nail were being driven into the skull (clavers). Many of them, too, complained of a pain underneath the left breast, and extending round to the back. On one or two occasions I have noticed patients complaining of the above symptoms, and in only a moderate degree, under favorable conditions—as, for example, long-continued anxiety or alcoholism—go from bad to worse till they become hysterical-epileptics. In cases of this kind it is supposed that the centre of inhibition has in some way got out of gear, and the severity of the symptoms depends upon the amount of disturbance in this nerve centre.

In cases where the ovarian distress was the symptom for which advice was sought, as being in the patient's eyes the most prominent, I usually succeeded in eliciting other indications of an irritable nervous system, and placed them upon half drachm doses of the fluid extract of *salix niger* three times a day. In quite seventy-five per cent. of patients so treated a great amount of relief was obtained after two or three day's treatment. Not only was the ovarian hyperæsthesia relieved but the nervous palpitation of the heart was abated, and the patient felt in every way stronger.

I have also given the drug in two cases of nocturnal emissions with marked benefit.

The pollution ceased entirely while the drug was being taken, and for several months thereafter.

Virile power and passion were not much, if at all, diminished, but the relief from the ailment gave them great satisfaction.

I might add considerable to the above experience, but it will suffice to add some observations of my own.

Salix niger appears to me to be an analogue of the bromides, but without the depressing effects of the latter. It is also an analogue of conium, but without its paralyzing effects on the nervous system. It acts in many respects similarly to hydrastis. It has the same tonic power, and probably acts on the arterioles by shutting off an undue amount of arterial blood, although no such experiments have been made with it on animals as have been made with hydrastis. It has some resemblance in therapeutical effect to ferro-cyanuret of potassium. It may be a close congener of *agnus castus*.

I can report up to the present the following cases:

Case I.—A maiden lady, aged thirty, applied to me for the relief of a distressing irritation of the sexual organs, coming on during the menstrual periods only. The sexual, or erotic, erethism, begins a day or two before the appearance of the menses. There is an itching, tingling and burning in the region of the clitoris. This causes erotic sensations and obscene dreams. It continues all through the period and for a day or two after. During the month no such sensations are present. I found on examination extremely painful vaginismus and some vaginal and uterine catarrh, also some tenderness of the left ovary.

From considerable experience with bromide of potassium in such cases, I knew it would control the symptoms, but I desired to test *salix*. I prescribed twenty drops of the fluid extract four times a day, beginning four days before the expected menses. The effect was very satisfactory. She passed through it with but slight irritation. The treatment was repeated the next two periods. It was suspended on the third, without a recurrence of the irritation. It can be pronounced a cure.

Case II.—A married woman, nearly fifty years of age, whose menses had been growing less in quantity for a year. During each period, and sometimes for a week before, she has an intense urethral irritation, which, she says, causes the sexual erethism, which lasts for a week. The concomitants were palpitation of the heart, with sense of suffocation and painful left ovary. To make matters worse, her husband was impotent, and her erotic desires could not be gratified.

Conium in 10 drop doses of the tincture was tried, but without avail. *Cantharis* 3x, *cannabis* ind. 3x, and *lachesis* 10th, did no better.

Salix niger, 15 drops of the fl. ext. every four hours gave relief. It removed the urethral irritation, the ovarian pain, but did not quiet the heart.

Convallaria, 5 drops every three hours, proved a specific for the cardiac irritability.

On her own responsibility, after these symptoms were removed, she continued the salix in larger doses, in order to abolish the, to her, normal sexual appetite after the menses. She informed me that this desired result was brought about, and she prizes the drug highly, for it has relieved her from unpleasant amorous dreams as well.

Case III.—This case was one of ovarian dysmenorrhœa. During the inter-menstrual period there was always some ovarian sensitiveness, but at the menstrual period it was greatly aggravated. I do not know if there was any sexual erethism, for I did not like to question the girl of seventeen, who was peculiarly modest and sensitive. In this case 5 drops of salix, repeated every three hours during the period, and a week before, gave her more relief than any drug.

Now, I do not claim that the salix was primarily homœopathic to the above cases. It may not be secondarily homœopathic. It was doubtless a purely physiological action of the medicine, just as it is in the case of bromides, when used for such symptoms.

I am convinced, after many years of careful observation, that we may effect permanent cures by substituting the physiological effects of medicines for the morbid condition existing. We thereby break up a *habit*, which effect will result in a cure of some very annoying and painful symptoms.

Salix niger should be more fully investigated, for I believe it will form a most useful remedy in sexual disorders of both sexes.

AN INQUIRY IN PROPHYLAXIS.*

BY HENRY G. HANCHETT, M. D., NEW YORK.

IN A paper which I had the honor to present to the recent International Congress of Anthropology, in speaking of the numerous expedients to which man has resorted in fighting disease, the following language is used:

"Strangest of all, since it is selected solely as a prophylactic, throughout the civilized world to-day the most intelligent persons are to be found deliberately mingling with their own presumably healthy blood a vile pathological product, the result of a loathsome, zymotic disease in a beast or fellow-man, and doing it with the avowed intention of making themselves sick with a malady abundantly capable of destroying life, and sure to depress the vital energies of the body, perhaps permanently. They are not only doing this, they

have passed laws in some of the freest States, and are endeavoring to extend such enactments to others, compelling their fellows, *nolens volens*, to submit to this same infection, and all this in spite of the fact that proof after proof has been brought forward demonstrating incontrovertibly that this vaccination, as it is called, is utterly without avail in protecting either the individual or the community from the dreaded variola."

The paper from which I quote appeared in full in the NEW YORK MEDICAL TIMES for July, 1888, and reprints can be had by those desiring them. The passage quoted has excited considerable comment, many who read it or heard it seeming to be surprised to find that vaccination was open to attack at present, and utterly ignorant of the great mass of recent anti-vaccination statistics and literature, and of the noted names that are ranged in opposition at least to compulsory vaccination. Many others have communicated to me their approval of the position taken in the paper, and their conviction of its soundness. The discussion has shown very plainly that there is still need of light upon the subject, and that some of the most serious objections to vaccination have not been sufficiently emphasized in the books and papers that have been published. These, then, are the considerations that must excuse the bringing of the subject before you this evening.

If it were merely a question of protection from variola, vaccination might safely enough be left to itself. However useless it may be shown to be, there can be no doubt that *faith* in it has not merely relieved troubled minds, allayed needless fears, and stimulated failing courage, but has actually, through influences of this kind upon the mind, given strength sufficient to resist and overcome attacks of the variola infection. I regard bread pills and high dilutions as very useful items in the physician's armamentarium, and if vaccination could be counted a member of the same class of harmless expedients, even its repulsiveness would not to my mind afford a sufficient reason for any attempt to hasten its natural death. But there is reason for believing vaccination to be an evil of large proportions, one that may be doing much to injure the general health, and to unfavorably affect the death rate. Along some lines such results have been pointed out repeatedly and clearly, while the object of the present paper is to inquire whether there may not be other directions in which an evil influence even more marked and of more importance than has been supposed, may be traced.

The attacks hitherto made upon vaccination have aimed to show either that it is useless, or

*A paper read before the New York Society for Medico-Scientific Investigation at its regular meeting, Nov. 7, 1888.

that it is harmful by reason of certain associated poisons, recognizable only by their clinical effects, inseparable from the vaccine virus after having once become incorporated with it, and difficult of exclusion when that method of vaccinating is pursued which was at one time most in favor. It is evident that the latter objection is entirely obviated if absolutely pure vaccine virus is used, and that it is therefore not an attack upon vaccination, but upon certain methods of practicing that operation. Most vaccinators to-day, at least in this country, concede that the objection is well sustained, and that humanized virus has conveyed syphilis, scrofula, tuberculosis, and perhaps other diseases, in so many cases as to make it imperative that every operator shall use only virus fresh from cows or calves known to be free from every disease but the one to be intentionally communicated to the patient. It is, however, curious and worthy of note in this connection, that failures with fresh calf virus lead vaccinators in many cases, not to abandon their useless operation, but to contend that the cause of failure is the use of animal virus, and that humanized virus should again be lifted to the place of honor. Such writers usually minimize or sneer at the alleged danger of conveying contagion, and one, who sent his communication to the *NEW YORK MEDICAL TIMES*, went so far as to assert that humanized virus was the only kind used by Jenner, and that for it alone did he claim absolute protective power against variola, an assertion not borne out by the facts in the case.

But tuberculosis is an insidious and dangerous disease to which cattle are liable, and it may be communicated to a patient through carelessness at the vaccine farm. I have a patient in charge at present who cannot give such a history of her case of consumption as will allow me to name anything except vaccination as its cause. Erysipelas, too, is an admitted consequence of vaccination that cannot be eliminated by any restrictions as to the source of the virus. In fact it has been said, although perhaps not upon the best authority, that it was erysipelas that first drove Jenner from animal to humanized virus. These points are worthy of consideration, but they have been abundantly and ably presented, and need not be discussed in the present paper. But in this connection allusion may be made to an amusingly serious letter to the editor of the *New York Medical Journal*, in which a physician suggests that vaccination should be performed under thorough antiseptic precautions. He proposes to guard against future repetitions of unpleasant experiences with erysipelas and similar serious

discomforts of a surgical practice, by putting the *septic* poison from the ivory point, furnished under guarantee of its virulence, upon a skin previously shaved and rendered absolutely aseptic by the most modern methods. If the doctor would but go a step further and sterilize his vaccine virus, I should be disposed to withdraw my objection to his method of amusing his patients.

The argument that vaccination is useless is based chiefly upon statistics which it would of course be but a waste of time and space to reproduce here. They have been carefully tabulated over and over again, and analyzed with marked ability by many writers. The curious or ignorant are referred to such books as Dr. Alfred R. Wallace's "Forty-five Years of Registration Statistics," Mr. William White's "The Story of a Great Delusion" (both published by E. W. Allen, of London), "Vaccination Before the Tribunal of History," by Dr. Martin Deschere, of New York, and especially to "The Value of Vaccination," by Dr. George William Winterburn, of New York, a book valuable both because of its calm and judicial tone, and also for its very complete bibliography of the subject, extended to nine pages and naming many books on both sides of the question, which those interested can examine at the great libraries.

Briefly, the statistics show that the deaths from smallpox ebb and flow regardless of the numbers of the vaccinated; that special exertions on the part of the vaccinating corps are usually followed by an increase in cases of smallpox; that the worst known epidemics of smallpox in London, in Sweden, and in New York, occurred after vaccination had become quite general, and in London (1871) after the compulsory vaccination law of 1853 had been in force for eighteen years, and the more stringent act of 1867 for more than three years. It is true that large numbers of reports have been made showing that many persons have been vaccinated and have not contracted smallpox, but a million such cases are more than offset by one thoroughly authenticated case of a person well vaccinated and afterward taking smallpox; and what physician does not know of several such cases? The English smallpox hospital reports admit that from 65 to 97 per cent. of their cases are in persons previously vaccinated and revaccinated, and it has been proven that in these reports many are entered as unvaccinated because vaccination marks could not be discovered while the variola eruption was out on the patients, although their friends asserted that they had been vaccinated; or because the physicians considered smallpox sufficient evidence that vaccination did not "take,"

and that it therefore practically did not exist, in spite even of the public vaccinator's certificate to the contrary. It is true that statistics have been published showing that of a given number of cases of smallpox a larger percentage of deaths occurred among the unvaccinated, but such statistics have been shown to have been made up without consideration of the age of the patients. By including among the unvaccinated many cases under two years of age—a time of life not likely to contribute so many cases to the vaccinated account, although the most fatal age in variola—favorable results can be shown, which will be *exactly reversed* when similar comparisons are made among patients of the same age.

It will not do, however, to put too much stress upon statistics. We all know that "nothing lies like figures," and that a skillful manipulator can make statistical reports prove anything he wishes. The profession has committed itself to vaccination, and the temptation has been in many cases too strong to be resisted, to conceal or explain away the truths unfavorable to the practice.

Upon the occasion of my reading the paper from which I have already made a quotation, a physician at once rose to protest against allowing the reporters present to make it public that the Congress of Anthropology had given its sanction to any attack upon the beneficent institution of vaccination. Those of you who noticed the recent terrible death in the Boston City Hospital of Dr. Warren S. Stokes, from vaccination and neglect, cannot have failed to remark the hushing up of the whole matter, although, after a report of the autopsy assigning septicæmia as the cause of death had been allowed to become public, another report was published in which the cause of death was said to be "*an exhaustion psychosis due to worry!*" And what must be thought of such a confession as the following, quoted from an article on "Certificates of Death" in the *Birmingham Medical Review*, for January, 1874. I take the liberty of supplying italics: "As instances of cases which may tell against the medical man himself, I will mention erysipelas from vaccination, and puerperal fever. A death from the first cause occurred not long ago in my practice, and, although I had not vaccinated the child, yet, *in my desire to preserve vaccination from reproach*, I omitted all mention of it from my certificate of death." These and similar facts tend to make statistics seem a poor reliance in proving anything, especially if the question be a medical one.

But the statistical side of the question has been thoroughly examined, and the results are easily

accessible. Our present knowledge of the laws of disease should tell us that vaccination can never protect from variola, because the variola virus, like every other, requires favorable soil in which to develop its specific effects, and vaccination does not eliminate this soil when it exists in a human being. The essential feature of smallpox is the location on the surface of the body of numerous pustules. The matter with which these pustules are filled must be previously stored in the body, and outside of the blood-vessels, as the appropriate soil of the variola virus, or the disease is impossible. Its removal (and where present it can be removed by treatment) secures immunity from smallpox; its reaccumulation, even after variola, lays the possessor open to a fresh attack. I know of one patient who had the disease four, and another three, times; and I think one case has been recorded of a man who sustained seven attacks of smallpox. An average case of variola will express itself in two thousand or more pustules—a vaccination sore that would be called "beautiful" would hardly discharge matter equivalent to twenty or twenty-five of the pustules, and that proportion of smallpox soil removed can hardly be deemed a protection. That a change in the constitution of the subject involving protection is not produced, is shown by the many vaccinated cases of variola, and might have been inferred from the abundant cases in which second attacks of smallpox have been sustained, and repeated revaccinations have "taken."

That vaccinators themselves recognize the futility of their efforts, may be seen from their frequent changes of plan. Jenner's first claim was for absolute and permanent immunity from one vaccination—a claim that is in itself amply sufficient to negative all his pretensions to recognition as a scientific authority. Failures led him to stipulate that vaccination must be from sores in cows caused by the grease in horses. Further failures led to the proclamation of details about the state of the sore in the cow, and the conditions in which protective virus could be taken from it. Succeeding failures led to the dogma of revaccination. Jenner himself stopped with one revaccination, but his followers have multiplied the process till now the cry is for frequent revaccinations, beginning with the unborn babe through its mother's circulation, especially in anticipation of an epidemic. It was not so much failure as erysipelas and other concomitants that first led Jenner to humanized virus, but this must be noted as another change of front among the vaccinators, and one that they have regarded as having a relation to admitted failures.

It is not my purpose to dwell upon the evidences of the uselessness of vaccination, which have been so frequently and so well displayed in many books, pamphlets and articles, including those I have mentioned. I only call attention to this side of the subject here to reinforce what is to follow; for the demonstration of harmfulness is not sufficient to condemn in medicine. All medicines are poisons, and it is exactly because of their poisonous and harmful qualities that we make use of them—a fact that it is well enough to recall occasionally, since it may help us to remember that it is only when we are reasonably sure of the usefulness of our drugs that we are justified in employing them.

The inquiry to which I wish more especially to call your attention relates to the indirect results that may possibly be traceable to vaccination itself, when freed to the utmost from all such extraneous sources of mischief as are the syphilitic, tuberculous and other germs to which allusion has been already made. There are some ugly facts that must be faced; but first let us examine the intended action of vaccination somewhat more fully.

The skin is the most important vital organ. No other organ except the brain exhausts nerve force so rapidly or demands so great a supply of blood. The daily excretion of waste products from the body is more than half accomplished by the skin alone. Any other organ may be more largely impaired for the performance of its healthy standard of duty without destroying life. In any disease involving expression upon the skin, it has always been regarded a bad sign when that expression is inadequate, or decreases prematurely. In erysipelas or scarlatina the physician dreads to see the disease "strike in," or the rash recede, not because he thinks the rash will do any harm, but because its disappearance indicates that vitality has fallen below the point at which it can hold the skin to its work, and that it may soon fall below the point of successful resistance to the disease itself.

Smallpox is a disease of external expression. It depends upon the union of a specific virus with an accumulation of certain kinds of waste products within the body, and it naturally determines those waste products toward the surface, where they can be cast off without injury to more delicate visceral organs. It is only in the worst cases that a serious internal expression accompanies the external, and most authorities admit that discreet cases tend toward recovery, leaving none but good consequences except for pock-marks, which are quite avoidable at least in all exposed situations.

The attempt to prevent smallpox by vaccination is, then, an attempt to prevent external expression without removing the thing to be thus discharged, or the exciting cause of the disease. It seems to me that any thoughtful man reasoning upon a clear conception of these premises would have anticipated the verdict of history, that such an attempt can end only in failure or disaster. For failing of release through the skin, the proper food of smallpox, which is sure to demand an exit some time, would be forced to an outlet through internal organs, where its passage necessarily involves more serious consequences by reason of the weaker and more delicate character of the organs, the unnaturalness of the work demanded of them, and their comparative inaccessibility to treatment should accident or disease demand it. The smallpox virus, however, being specific, if it makes its attack after vaccination, must still require an external expression, for that is its nature and so alone can it act. But let us inquire if vaccination, even in the case of such an attack, may not after all have introduced an element into our problem, for we find that some views of the statistics show that among the 65 to 97 per cent. of cases of smallpox which attack vaccinated persons, the death rate is *higher* than among the 3 to 35 per cent. of cases occurring in the unvaccinated. Why is this?

The operation of vaccination is intended to produce, and in many cases does cause, an attack of zymotic disease, manifested by fever, restlessness, nausea, vomiting, roseola, enlarged glands, abscesses, and other evidences of a serious assault upon the vital powers, frequently resulting in permanent depression, and sometimes, as in the recent notable case of Dr. Stokes, even in death. Let this state of depression exist when the smallpox virus makes its attack—and that by no means necessitates an exposure shortly after vaccination—and the fighting, expelling power, the *vis medicatrix nature*, may be and often is found inadequate to the demands made upon it, and meddling medicine scores another mound in the churchyard.

But vital energy is one thing in all its bearings and employments, and if vaccination can reduce it so far as to favor the attack of one disease, no specific disease can be named that will not more readily find access to, and lodgment in, the human body because of this depressing influence. I ask you, then, members of this Society for Medico-Scientific Investigation, to examine the relation existing between vaccination and diseases of internal expression. With minds open to conviction, see if you are not led, as I have been, to the

conclusion that evil results, directly chargeable to vaccination *at its best*, outweigh a thousand-fold all the evils at which that practice is aimed. I shall not point you to many statistics—their imperfection and unreliability are too great and too well known to permit building very solidly upon them as a foundation. Still one can learn much by patient wading through such figures, comparing and analyzing them, and checking their showings by the results of experience and personal observation, and there are some helpful facts that are established.

Among the latter I note first that inoculation with smallpox virus is now a crime in England, although it was sustained by exactly the same arguments and statistics, word for word and figure for figure, as are used to-day to support the practice I am attacking. If you will go to one of our great libraries and select one of the numerous works a century or more old upon the subject of inoculation, you may there read, in quaint expression and antique printing, statements and arguments regarding that proceeding identical, save for the use of a different name, with the arguments to-day used in favor of vaccination. Inoculation was introduced about 1720, and was made a crime in 1840. Hence it lived for one hundred and twenty years. Vaccination is now about ninety years old. The former practice was rejected at last because it was proved to be murderous. It not only increased the death rate from smallpox, but increased cases of the disease to such an extent that we are to-day suffering from the evils of vaccination, in consequence of the spread of variola thus induced, and in the vain hope of blotting out in this manner the mischief our fathers caused by a similar misguided attempt. I hope and believe vaccination will be abandoned before it attains to the age of inoculation, and that the day of its death may dawn before any further follies of the same species gain a hold upon the popular mind.

Another established fact is that diphtheria is now a disease which is a constantly present factor in the death rate, and second only to consumption in the number of its victims, while up to a comparatively recent date it was an epidemic showing itself only at intervals of from eighty to ninety-five years. I grant that often its exciting cause may be sewer-gas, contagion or specific microbe, but you have yet to account for the widespread susceptibility which has changed the disease from a plague, attacking but once in three generations, to the most dreaded scourge we are called upon to meet—one which requires fighting from some of us every day. And you must find

some explanation for large numbers of sporadic cases, occurring where there is no sewer-gas or other filth, and no history of contagion. The disease is spread far and wide, and there is but one procedure affecting health which has gained a co-extensive distribution among the people, and that one thing is vaccination. Diphtheria is exactly one of those diseases of internal expression which we should expect to follow a proceeding designed to repress an external expression of morbid activity. Is it unreasonable to hold vaccination responsible for the change I have noted, one that corresponds remarkably in time with the spread of Jenner's expedient? Other diseases of internal expression, which appear to be increasing in number of cases and in fatality, are typhoid fever, phthisis and Bright's, and perhaps croup.

Relapsing fever, too, must be accounted for. That is a disease which can only be traced back for about a century, and it has manifested a strange tendency to break out in a country for the first time, just after the country begins vaccinating. It looks very much as if it were simply an expression of the effects of vaccination.

Another troublesome and thoroughly established fact is the marked increase of cancer in recent years, and we find that the suspicions of some men who approve of vaccination have been directed to it as a cause. In my own mind there remains no question that the two hold the relation of cause and effect. In short, I believe that "a thoroughly vaccinated person becomes physically degenerated, and requires more care to avoid smallpox, varioloid, diphtheria, or any communicable disease, than does an unvaccinated person,"* and that he succumbs more readily to these and to other exhausting diseases.

Smallpox may be decreasing, although it would be hazardous to assert it in view of the ebb and flow which have marked its history, and the great epidemic which seemed to extend almost over the world less than twenty years ago. But to admit that it is decreasing would not require the concession of a single point to vaccination. Variola is a filth disease, and we are learning something about personal and civil cleanliness in these latter days, enough, it is to be hoped, to reduce the danger of smallpox. But vaccination is a filthy thing, a useless thing, a harmful thing; and it is not creditable to us as a nation that we wish to force upon our unwilling citizens a thing against which so much can be said, and for which so little can be proved. Erysipelas, scrofula, syphilis, tuberculosis, typhoid, diphtheria, Bright's disease, relapsing fever, septicaemia and cancer, in

*Dr. A. H. Laidlaw.

exchange for smallpox, doesn't seem like a very good bargain, especially as there appears to be a potent method of protecting from variola without risking any such exchange.

We can recognize the mistakes of our predecessors and those of some of our contemporaries. We wonder that the old-time doctor did not suspect that his lancet, his calomel and tartar emetic, put many a patient under-ground, whose disease would have ended in recovery if it had been let alone. We are ready to admit frankly that in the past many patients have unquestionably "died of the doctor;" in fact this very disease, variola, is a case in point, for the change in the death rate, made by Sydenham and his followers, as compared with earlier records, leaves no possible doubt that mistaken treatment had more than anything else to do with the great mortality of the scourge. Some of us can see very plainly that our colleagues, who are to-day puzzling their brains to explain the terribly increased mortality of pneumonia, need only to leave their hypodermic syringes and morphine at home to find the solution of their problem. Physicians, the wisest of them, have made mistakes. May we not possibly be able to guard ourselves from posterity's imputations of folly, and clear our skirts from the stain of sickness, and perhaps death, forced upon our neighbors under the guise of prophylaxis, by a careful re-examination of the claims of vaccination? The question is well worthy of consideration.

CLINIQUE.

A WORD OF CAUTION IN THE USE OF ANTIPYRIN.

BY EUGENE R. CORSON, M. D., SAVANNAH, GA.

AMONG the many new drugs brought to the notice of the physician, none seem to hold their ground better than antifebrin and antipyrin. In certain cases they have given brilliant results, and the physician is constantly tempted to make use of them. In the last six months I have frequently used antipyrin. In certain cases of neuralgia and congestive headache it has acted with the promptness of morphia hypodermatically, and without any unpleasant effects. In sleeplessness I have often found it of value. It is in the relief of the headaches and sleeplessness in pyretic conditions that I have found its great value rather than in the mere reduction of the temperature, for the sweating consequent upon it has been a source of great discomfort to the patient. Its use in transient troubles has never in my hands been followed by any bad results, but in several

cases of continued fever, when I have been tempted to use it simply as an antipyretic, I have had on three occasions results which have warned me that I was using a two-edged knife. I have been prompted to give my experience with the drug by an excerpt from the *British Medical Journal* in the *Medical Record* for November 3d, of this year, under the caption, "A Poor Showing for Antipyrin." In it Dr. Oscar Jennings reports a case of poisoning from the drug. The patient had nodular rheumatism, and received 2.5 grammes daily for a week. On the eighth day erythematous spots were seen on the arms; on the ninth day the face and eyelids were red and swollen; the day after a rash came out all over the body, with catarrhal conjunctivitis, anorexia, a sensation of internal cold, a pulse of 78, singing in the ears, and great prostration. A few drops of belladonna caused these symptoms to disappear rapidly. M. Germain Sée had had similar cases from doses of 3-4 grammes daily. Dujardin-Beaumetz had noticed pain in the stomach and dyspeptic symptoms follow the use of the drug.

I have had three cases where the use of antipyrin has been followed by more or less severe symptoms. One case I shall relate somewhat in detail. A young lady of thirty-two years was taken down with one of our continued remittent fevers, which ran a course of twenty-one days. The fever began suddenly, and was most severe during the first week, the morning temperature registering 101°-102°, with an evening rise of 103°-104°; there was violent headache and pain in the side, and an aggravation of a bronchial trouble which had existed for some time. Thirty grains of antipyrin were given daily in ten-grain doses hourly. An immediate improvement followed; relief of the headache, and a reduction of the fever from two to three degrees, the only discomfort being the profuse sweating. Not more than thirty grains were given daily. On the eighth day a slight papular eruption was noticeable on the face; the day following the eruption had become well marked, and had spread over the entire body; the eyes were suffused, the conjunctivæ highly congested; even the ears were swollen and covered with papules. To all appearances it was a complete picture of measles, nor could I, nor a colleague called into the case, tell it from a typical eruption of measles. Even the crescentic arrangement of the papules was well marked where the eruption was discrete. Here was evidently a delicate point in diagnosis. The patient had had measles when twelve years old, and so diagnosed by a competent physician. The

course of the fever was typical of our continued remittent fevers, and there was no epidemic influence to fall back upon. The diagnosis of measles was abandoned, the antipyrin stopped, and belladonna given. The eruption disappeared in three days, and the fever ran its course twenty-one days, which left no doubt of the nature of the case. Strange to say, while the face cleared up completely, the eruption left erythematous spots on the extremities still visible, three weeks after the disappearance of the eruption.

Two months before I had a case of diphtheria, with violent ulcerative stomatitis, in a boy of ten years. There was high fever and violent headaches, and antipyrin was given for a week, fifteen grains daily in five-grain doses. An eruption came out about the ninth day, which had all the appearances of measles, and at the time I was inclined to so diagnose it, especially as there had been a case of undoubted measles in the neighborhood. The child had had measles three years before; the case died.

In another case of continued fever running a course of twenty-eight days, of a severe type, antipyrin was given in the beginning, thirty grains a day in three doses of ten grains each. Headache and restlessness were immediately relieved with a reduction in the temperature. But some gastric trouble, a tightness in the chest, and a beginning papular eruption on the face, led me to abandon the drug at once. I have no doubt that its continuance would have brought out an eruption and otherwise aggravated the case.

Antipyrin has proved itself a useful drug, and will undoubtedly find a place in the *materia medica*; but it will require further clinical experience before its proper sphere and limitations are correctly mapped out. My own experience prompts me to use it in certain acute cases where its employment does not exceed two or three days. Here it will often act like magic in relieving neuralgic and congestive headaches, nervousness and sleeplessness. But in continued fever, where its use as an antipyretic demands its employment for a number of days, it will have to be abandoned for other measures. In fact, to my mind, science has yet to give us a remedy which will prove better in lightening the burden of a long-continued high temperature than the scientific use of bathing and sponging, and the nourishment of the patient to the highest point of his assimilative powers with the least expenditure on his part.

Constipation of Infants.—Prof. Parvin recommends, as a simple expedient, rubbing the abdomen with a little sweet oil.

SILICEA IN THE SUPPURATIVE PROCESS.

BY GEO. B. DURRIE, M. D., NEW YORK.

THE brief description here given of a case which lately came under our observation, contains nothing new or startling, but as corroborating testimony to the action of an old and well tried remedy, may not be without interest. Mr. P., about twenty-eight years of age, noticed some three or four years ago, a slight swelling on the lower part of his thigh, which was accompanied with some pain. The swelling increased gradually, and before long opened spontaneously with a moderate discharge of pus. He did nothing for it, and the opening slowly enlarged, the discharge continuing. It did not prevent him from attending to business, however, and he allowed it to go on without any special treatment till about two months ago, when he consulted my friend, Dr. Léon. An examination then showed an open sore nearly an inch in diameter, with sinuses running in different directions, the largest being not less than two inches in depth. His general health had suffered some, of course, from this long continued drain, but not as much as might have been expected. The sinuses were fully laid open by Dr. Léon, and vigorous treatment commenced with a view to healing from the bottom. They were thoroughly washed and packed twice a day with oakum and balsam of peru. Contrary to expectation, however, the treatment was not followed by looked for results. The tissues did not respond to the stimulation. After about ten days, the case having made very little, if any, progress, silicea, third trituration was given at my suggestion, a small powder four or five times a day. In less than forty-eight hours an improvement was very manifest. Healthy granulations began to spring up, and the patient, who had before been a good deal depressed, felt renewed vigor. The silicea was continued in connection with the local treatment, and the case went on to complete recovery. I do not believe it would have been possible to reach this result with the internal remedy alone, but I feel equally certain that the local treatment would have failed without the aid of the remedy which manifestly gave the necessary stimulus to the reparative process.

Silicea is without doubt one of our most trustworthy remedies, and one that shows clearly the advantages and the efficacy of trituration.

Flavoring Cigars.—According to the *Kolonial Waaren Zeitung*, a queer way of improving the flavor of cigars has been brought to light in Germany. They are stored for a longer or shorter period in a hive tenanted by bees, whereby they acquire a delicious floral bouquet.

"SURGICAL MEMORANDA."

BY ARTHUR T. HILLS, M. D.

Surgeon to Ward's Island Hospital and to the House of the Good Samaritan Diakonissen, New York.

Excision of the Breast for Cancer.—Dr. Hodges, in his exhaustive article upon "Excision of the Breast for Cancer," speaks of the technical simplicity of excision of the female breast, and of its being performed with but little hesitation even by those not accustomed to surgical operations of similar importance, also of their frequency, and the anxiety they cause in the minds of women who by over persuasion of their advisers or friends to do something, finally admit of excision. It is probably the most common of the major operations in surgery, the inducements to perform it numerous, and the judgment with which it is undertaken not always so discriminating as might be desirable. Quotation is made from many eminent surgeons both in Europe and America, prominent among whom are Paget, Bergman, Gross, Banks, Lebert, Bougard, Macfarlane, Delpech, Butlin, and others. It is remarkable to note the difference of opinion which exists in the minds of these eminent surgeons, Gross, Banks, Diffenbach, and others in favor of excision, even the complete operation, removing the axillary glands entire, and Paget, Delpech, Hodges, and others in opposition to any surgical interference whatever. Lebert the accomplished pathologist says "I do not hesitate to assert, contrary to the opinion of a majority of surgeons, that (as between operation and medical palliative treatment without operation) the latter method of treating cancer of the breast, ought to be the rule, and by operation the exception." Diffenbach, who was the surgeon most addicted to excision in Germany, has recently asserted that "the greater his experience became the more he was disposed to renounce every operation for cancer of the breast." Mr. Paget says "in deciding for or against the removal of a cancerous breast in any single case, we may dismiss all hope that the operation will be a final remedy for the disease. I will not say such a thing is impossible, but it is so highly improbable that a hope of its occurring in any single case cannot be reasonably entertained."

The removal of cancerous breasts is excepted to, therefore, because of the danger to life. In every fatal case the operation destroys in a week or two, a life which otherwise might have lasted as many years. The prolongation of a life here and there does not compensate for the cutting short of many others. Recurrence after operation being held by many to be as certain as anything in surgery, to submit a patient to dying within a brief period for the sake of the interval of health which will or may exist between the operation and the return of the disease, is a point of practice which certainly admits of question. In quoting from Mr. Paget again he says "it is true that the danger of a fatal result is one which painstaking, cleanliness and drainage may steadily diminish, though the conditions for operation do not offer good material to work upon, usually they are not young, they have borne families and have known much mental or physical hardship. They are apt to be in the critical and transition period, between middle life and advancing age, when organic diseases of internal organs increase very much in their proportion, and consequently are unfitted to endure the risks of a pos-

sibly slow and uncertain convalescence, hitherto enhanced by erysipelas, abscess, fever, etc. These complications are fortunately, at present, to a certain degree controllable." Mr. Banks, one of the most strenuous enthusiasts in favor of the operation, permits himself to say "the popular idea that operating prolongs life is quite wrong. I believe it to be a perfect delusion. I believe all these patients (i. e., those whose breasts have been amputated, but whose axillary glands—diseased or not diseased—have been allowed to remain) would have lived longer if they had never been touched." Yet you hear the operation being constantly advised, on the ground that if it does not cure the patient, it will give her a little longer lease of life, on the contrary, the excitement that is set up by the operation makes everything that is left behind, of a malignant character, grow with double and treble speed, and the deaths after reappearance are generally more painful than those where the cancer has never been touched. The distinct conflict of opinion for and against excision, lends strength to the contention that a way to cure cancer of the breast, save in occasional instances, not having yet been discovered, we may call a halt in the course which has been so long pursued and attended by a mortality above that natural to the disease.

Dr. Hodges says, "Far from disputing the correctness of other surgeon's statements, I can only say that such results have not fallen within my experience. I have never known but one instance of seemingly prolonged life after removal of cancer of the breast. The considerable number of persons in civilized communities with cancer of the breast, who have lived lives of average duration and of comparative comfort, without ever having been surgically advised, or who have died of disease wholly disconnected with the mammary affection, is a significant matter of fact." It would seem that the author has formed an unfavorable and gloomy opinion of the surgical treatment of this formidable disease, but he does not seem to have done so hurriedly or inconsiderately. He admits that there is less fear now than formerly in severe operations, but he adheres to the belief that patients with cancer of the breast are, as a rule, better off without than with operation, or that their cure, if cured they are to be, lies in some as yet undiscovered remedial measure of coming surgery, rather than in extending a mutilation which, whether limited or comprehensive, must always remain "inmedicable vulnus."

Pressure in Sprains, Etc.—Dr. Burrill, of Boston, reports in the *Med. and Surg. Jour.*, his experience and the benefit to be derived from rest and skillfully applied pressure in sprains, lymphangitis, and diffuse cellulitis, by means of the "Gangee" method of applying oakum pads and pasteboard splints. The oakum pads are of various sizes in length and breadth, and are over an inch in thickness; they are covered with coleraine cloth. They are applied so as to exert an equable pressure over the whole limb, from the extremity upward, particular attention is paid to exerting an extra amount of compression over the arterial tracks, and the course of the lymphatics. The pasteboard is cut up into various sizes, usually six by two inches. These are moistened in hot water, and are superimposed about the affected joint so as to gain equal pressure. The pads are always used where there is a possibility of averting suppuration, and poultices have been practically discarded in these cases, and Dr. Burrill reports that the localization of suppurating areas by this treatment has been surprising.

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THE WATER SUPPLY OF NEW YORK.

WE ARE inclined to think that when a great public work is conceived and carried to completion in New York solely for the public good, the millenium cannot be far off. Private interests and personal greed are often of such strength and persistency as to put back for a long time enterprises of the utmost value and necessity, until public opinion has been educated at an immense cost and a long delay. The crab-like way of locomotion so common in great enterprises in New York is forcibly seen in the water question, which now appeals so strongly to every householder in New York. Several years ago Mr. Church, the recent chief engineer of the new aqueduct, conceived the plan of building a dam at Quaker Bridge which would impound in one deep, large lake nearly all the water of the Croton water-shed. The idea was submitted to the then chief engineer of the Croton Water Department, Isaac Newton, an engineer of great originality and ability, and after careful study, with the help of some of the ablest hydraulic engineers in the country, was endorsed and recommended in the strongest and most emphatic terms. Hubert O. Thompson, Commissioner of Public Works, and without exception the ablest and most far seeing man who has filled that position since the intro-

duction of the Croton water, gave the plan the strength of his official sanction. Unfortunately for the enterprise, Mr. Newton was removed from his work by death, and Mr. Thompson, in the turn of the political wheel, gave place to another commissioner, and shortly after died. Had they been permitted to carry on the work in the spirit, energy and good faith with which it was commenced, the city would be now enjoying the millions of gallons of water which we hope to obtain through the new aqueduct, perhaps five years hence.

The original plan called for a dam at Quaker Bridge and an aqueduct to the city. Fifteen millions of money have already been spent in constructing the aqueduct, but the dam is not only untouched, but a strong and determined opposition exists on the part of persons interested in property in that vicinity to commencing the work. Instead of one deep lake, which could store the water of the entire Croton water-shed, they propose a large number of surface ponds. These ponds would present an immense surface for evaporation, and being shallow in depth would retain a large amount of the impurities and poison germs which are seldom found in deep waters. Engineers have recently examined the lakes in the vicinity of Syracuse for the purpose of obtaining a water supply for the city. They found the water of Skancatlas Lake by far the purest of any examined. This was undoubtedly owing to the great depth of water, it being from 150 to 250 feet deep, with nothing but evaporation and surface drainage, in part through the Erie Canal, to decrease the volume. The old aqueduct commissioners have given place to a new board, of the thorough practical training necessary to intelligently decide the question between a dam such as was originally intended at Quaker Bridge, or a score or more of shallow reservoirs scattered throughout the water-shed. Too much money has already been spent to doubt the final completion of the work, but the long delay and the fighting over plans which were supposed to have been decided has brought to the front a project proposed about 1883, since modified to do away with valid objections, of utilizing for the city the water of the Passaic water-shed.

We are indebted to Mr. John R. Bartlett for a very beautifully executed prospectus illustrating by detailed maps and pictures the great Passaic water-shed in New Jersey, three times larger than the Croton water-shed, and their plan of impounding the waters now going to waste, to supply the northern cities of New Jersey, and through a tunnel under the North and East River, furnish New York with 50,000,000 of gallons per day, and Brooklyn as much as she may need. If the project is carried out the commissioners of the sinking fund will be required to enter into a contract to take 50,000,000 of gallons a day at \$75 per million gallons, to be delivered on the North River front south of Fourteenth Street, the pressure to be that due to a head of 300 feet. The pressure would be so great that in the district south of Fourteenth Street, the water would rise to the tops of the highest buildings.

There is no doubt about the feasibility of the plan. A tunnel under the North River will, in the course of a few years, be completed for commercial purposes—in fact, if we mistake not, 300 feet of the one already commenced has been completed under the supervision and direction of Mr. Bartlett, whose plan, and that of his associates, for bringing water into the city, is now under discussion. The scheme involves the tearing up of streets, the laying of an immense amount of pipes and the replumbing of most of the houses in the district, and it is a question if the city would feel warranted, in view of the millions which have been spent, and the millions more yet to be expended in the new Croton supply, in adopting the plan. The district which this company would supply with water contains the extremes of wealth and poverty, the princely business palaces of finance and commerce, and the crowded tenements where disease and death swell the death rate of the city to the enormous percentage of 26 per 1,000 persons. We do not believe the water could be delivered in the city in anything like the time promised by the projectors. The scheme, however, is an extremely plausible one, deserving the most careful consideration, and need in no way interfere with that now being worked in the new system.

VACCINE INOCULATION.

OUR readers may think it superfluous at this day for us to offer any defense of vaccination against variola, and our only excuse for so doing at this time is to make rejoinder to the able and scholarly paper in opposition to this practice, by our friend, Dr. Hanchett, which appears in other columns.

The assertion that vaccination is responsible for a host of other affections is claimed by those who have made careful study of the subject, to be utterly "preposterous and unfounded," and statistics bear out the statement, showing that the mortality from fever has progressively subsided since 1771, and that the deaths from smallpox, scarlatina and measles are now only half as great as the mortality formerly occasioned by smallpox alone, and scrofulous affections have notably decreased.

The members of the medical profession have, perhaps, unconsciously and unintentionally, furnished nearly all the theoretical material for the attacks of anti-vaccinationists against the thoroughly established practice of animal vaccination. We are quite aware that such articles as the one to which we refer cannot be founded upon any one single existing fact, and must therefore be entirely theoretical, and of no possible value except to the anti-vaccinationist. We are also quite aware that any discussion upon this subject can be of no possible benefit to the science of medicine until indisputable facts can be laid at the foundation of the theory. From the researches of M. Strauss and others, tuberculosis in the bovine animal has been found to exist in only one case in one hundred thousand, and its transference to the human subject has not been proved by any well-authenticated case.

The researches of M. Strauss, published by the *New York Medical Record* in 1884, in regard to the subject of transmitted tuberculosis from the bovine animal, and the results obtained from these investigations practically put an end to all question in the matter, especially as there has been no single well-defined case of such transmission discovered.

It is claimed that, did tubercular disease exist

to a considerable extent in the animal, we should have no fear of its transmission by means of bovine virus, since it has become a well-known fact among the older propagators of virus that only healthy animals yield a profitable supply of lymph. The most certain evidence of health in bovine animals will be found in their smooth, glossy hair. The reverse is evidence of ill-condition or disease. Such animals will, in most cases, fail to respond to the inoculated disease; therefore nature would in some cases protect us against tuberculosis, provided its existence was more common.

Propagators claim that there is practically no blood upon the bovine virus "points" furnished by them. There are two methods of charging ivory points, however, from the pustule upon the animal. In the method practised by some the lymph is expressed by means of pressure forceps applied to the base of each vesicle. It will be readily seen that in this method blood may be thrown out together with the lymph. Those who practise this method vaccinate only very young calves, whose skin does not furnish natural tension to cause the lymph to spontaneously exude. The method of the New England Vaccine Company has always been to select good, fat animals of sufficient age and strength of tissue to produce the natural tension. In such cases the lymph will flow clear, white and free from blood without pressure. We have used for several years the virus furnished by this company with perfect satisfaction.

It may be seen by statistics that tuberculosis in the bovine animal is now comparatively rare, and by careful breeding will become more so, but when present is not difficult of diagnosis, so that propagators of virus may avoid such subjects if they will, as they are likely to do on pecuniary grounds, if for no other reasons.

Recent statistics from the German Empire show how the death-rate from smallpox may be diminished where the practise of vaccination is compulsory:

For the year 1886 the smallpox death-rate for the whole empire was only .03 to each 100,000 of the population. In the larger cities it ranged from .07 in Berlin to 3.6 in Hamburg. Compared

with the German cities the rates in other European cities ranged from .06 in London to 4.9 in Liverpool; Paris, 9.0; Brussels, 11.4; St. Petersburg, 15.3; Moscow, 34.1; Vienna, 26.2; Venice, 51.6; Rome, 134.3; Genoa, 153.8; Budapest, 368.7; Marseilles, 545.3 to the 100,000. More than two-thirds of the deaths from smallpox in Germany were in cities like Hamburg, which have a large foreign shipping trade, and in those districts which lie immediately along the Russian and Austrian borders.

Statistics from a great variety of sources showing the efficacy of vaccination could be given if necessary, but we feel that we have already said enough to convince our readers that we do not agree with the conclusions of our esteemed contributor respecting the subject, and we feel that they will agree with us that our reasons are well founded, and that of two evils we should choose the least.

SOME of our most valuable medicines have been suggested to scientific minds from their efficiency as domestic remedies. In our boyhood we remember how often yeast was brought into requisition as a gargle for the throat and wash to the mouth in spongy and ulcerated conditions, as an ingredient to poltices in indolent or offensive ulcers, and as an internal remedy in offensive breath, fermentive, diarrhœa, and putrid fevers. Dr. Heer, of Ratibor, in an interesting article in the *Deutsche Med. Zeitung*, attributes the beneficial action of the yeast to its microbe, the *torula cerevisiæ* which by its rapid growth, ultimately arrests and checks the growth of more dangerous and pathogenic forms. A serious and virulent epidemic of scarlet fever and diphtheria in Ratibor was treated with no other remedy than yeast, the scarlet fever running a mild course, and the membrane in diphtheria being cast off with remarkable quickness, while heart failure and paralysis in no case made an appearance. A medium dose was a dessert spoonful hourly, assisted by washing out the mouth and fauces with a wash consisting of one teaspoonful of yeast to five of water at intervals of every two hours. Appetite and normal digestion were speedily restored. In the diarrhœa of chil-

dren with offensive and bad colored evacuations, from two to four drops hourly in a solution of beer of one to five, produced excellent results. In typhoid fever the diarrhœa always ceased in a few hours after yeast was given. The homely yeast used in times past by the mothers and nurses with marked success, has to a certain extent given place to the more refined drugs of modern science, but perhaps, now that its value is explained from a scientific standpoint, it may regain its old popularity.

THERE are asylums for the insane, hospitals for the sick, almshouses for the poor, and prisons for the law-breakers, but no home for the inebriate where under the watchful eye of science his steps can be turned away from the prison or the almshouse, and led back into the paths of usefulness and sobriety. With a disease steadily gaining ascendancy over his will, blighting his manhood, he must wait until some crime is committed, until his brain has lost the power of correct thought and action, until all hope of rescuing him from his viler self and bringing him back to a better life is over, before any other action is taken than that of exhortation, which is too often like the passing wind. It would be simply an act of justice if the drunkard-maker could be made to support the drunkard during the process of his cure. If men must drink alcoholic stimulents in bar-rooms and porter-houses, let the bar-rooms pay a portion of their profits in ample fees to inebriate asylums where a portion of the great wrong would be undone. Every State insane asylum should have a pavilion for inebriates and those who have come under the sway of narcotics and hypnotics, to which patients could be committed by regular process of law the same as to an insane asylum. These pavilions might be called Nervous Sanitariums, and while directed by the general medical staff, could be separate and distinct from the insane pavilions in association, amusement and general work. Among the insane labor is used as a remedial agent, and is not generally profitable, but in the inebriate pavilion, while aiding in the cure, it could be utilized among the poorer classes in contributing to their support. Aside from the large class who

have come under the direct influence of alcohol and narcotics, there is still another class which might be included in the pavilion, those who are living and suffering in the borderland of insanity, and whose peculiar nervous disturbances require in diagnosis and treatment the skilled eye and disciplined mind of those who have made every phase of mental disturbances a careful study. We trust some definite action in this direction will be taken during the coming winter.

SULFONAL is rapidly coming into use as an efficient remedy for insomnia, the claim for it being quiet, natural sleep of several hours, followed by no disturbing or depressing effect. We have given the drug in several cases with very excellent results, but in one instance, in a gentleman of about 70 years of age, fifteen grains was followed by one hour's quiet sleep, when the patient awoke bewildered, and was exceedingly restless the remainder of the night, and in another case a gentleman became so restless after an hour's sleep that he was obliged to get up and read. In both cases there was a lack of muscular control. In the first case there was dilatation of the heart, and in the second the insomnia was without any apparent cause. As the action of any drug can only be learned by positive and intelligent proving, or to a less extent by clinical experience, any information respecting the sphere of action of a drug like sulfonal, of which sufficient has been learned to show its great value, is of the utmost importance.

THE Ladies' Health Protective Association of New York has, during the short time it has been in operation, done excellent work, not only in obtaining much needed laws for the better health of the city, but in seeing that they are put in force. The doing away to a certain extent of the foul smells of bone-boiling establishments, and securing the greater cleanliness of slaughtering houses, are due in a great measure to the thorough organization and persistent work of this organization. Careful investigation long since proved that the most economical plan, and certainly the one with the least objection on the score of health, of getting rid of the refuse matter and garbage of the city, was by means of creamators instead of the dumping scows now in use,

and to this matter the ladies are now directing their most active and energetic work. The refuse could be consumed in small cremators without smell or the escape of poisonous gases in a much safer and more satisfactory way to the public health and the public purse than at present. One would naturally suppose that this city standing at the gateway of the Western World, the great distributor of the industries of the nation, would be the first to adopt a measure so much needed, but it seems small Western cities are ahead of us in this respect, and the association at its own expense has engaged a prominent civil engineer to visit Buffalo, St. Paul, Minneapolis and Des Moines, to investigate the working of the cremators in use in those cities. When this report is made we have no doubt our Board of Health will secure the introduction of the cremator here. All that is wanting to get rid of a great many nuisances and secure great improvements is to get at the work in the right spirit, a faculty which the ladies seem to possess in a marked degree. If the departments pertaining to the cleanliness and general health of the city were managed with as much intelligence, economy and good sense as are seen in many of our households, the comfort and health of our people would be infinitely improved, and it is a question worthy of consideration to take these matters out of hands which have been proved incompetent, and entrust them to those, who, upon a small scale, have been eminently successful.

CHILDBIRTH IN A RAILWAY CAR.

DR. WILLIAM OSLER narrates the following remarkable story in the *Canada Medical and Surgical Journal*, January, 1888:

Dr. Parvin's paper on injuries to the fetus (read before the Philadelphia County Medical Society, Oct. 26, 1887) reminds me of an interesting experience which I had in the northwest in 1886, which is worth placing on record. Mr. Fred. Brydges had kindly met our party at the portage to take us over the Manitoba and Northwestern road, and he mentioned that, two days before, a woman, while in the water-closet on the train, had given birth to a child, which had dropped to the track and had been found alive some time after. I was so incredulous that he ordered the conductor to stop the train at the station to which the woman had been taken, that I might see her and corroborate the story. I found mother and child in the care of the station-

master's wife, and obtained the following history: she was aged about 28, well developed, of medium size and had had two previous labors, which were not difficult. She had expected her confinement in a week or ten days, and had got on the train to go to see her husband, who was working down the track. Having a slight diarrhoea, she went to the water-closet, and while on the seat labor-pains came on, and the child dropped from her. Hearing a noise and groaning, the conductor forced open the door and found the woman on the floor in an exhausted condition, with just strength enough to tell him that the baby was somewhere on the track, and to ask him to stop the train, which was running at the rate of about twenty miles an hour. The baby was found alive on the side of the track a mile or more away, and with the mother was left at the station where I saw her. She lost a good deal of blood, and the placenta was not delivered for some hours. I saw no reason to doubt the truthfulness of the woman's story, and the baby presented its own evidences in the form of a large bruise on the side of the head, another on the shoulder, and a third on the right knee. It had probably fallen between the ties on the sand, and clear of the rail, which I found, on examination of the hole in the closet, was quite possible.

Snake Bites and Yellow Fever.—A physician in Rio de Janeiro points out analogies between the effects of a snake bite and yellow fever, both of a symptomatic and pathological nature, and suggests the use of the *minas gerass*, a vegetable substance very common in the provinces, a specific in snake bites, as a remedy in yellow fever.

BIBLIOGRAPHICAL.

TRANSACTIONS OF THE FORTY-FIRST SESSION OF THE AMERICAN INSTITUTE OF HOMOEOPATHY, Forty-fifth Anniversary. Held at Niagara Falls, N. Y., June 25-29, 1888. Edited by the General Secretary, Pemberton Dudley, M. D.; pp. 820, octavo.

This volume contains the usual variety of subjects, many of which are treated in a manner worthy of more appreciation than can be expected under the circumstances. We are glad to see a preponderance of clinical therapeutics, and Dr. Wesselhæft continues his test provings, which will astonish the credulous in respect to so-called drug provings. The Bureau of Materia Medica cannot brag much upon its report in any respect. The articles, many of them, are most brief, and savor of the text-book, but the extensive report of Dr. Mohr, of the Bureau of Provings, may be allowed to balance it up. The report as a whole is about the same in character as for many years past. Certainly we do not observe any particular improvement in the work done.

We are surprised to see that Dr. T. F. Smith, in his bureau report, should misrepresent the Editors of the *TIMES* in attempting to explain why this journal was denounced by resolution of the Institute last year—in the following language—"Because of the stand they had taken in their journal against homeopathy" (italic ours).

No one knew better than the mover of the resolution, if he had been such a reader of the *TIMES* as that resolution would imply, that his statement, if correctly reported by Dr. Smith, was not only absolutely, but maliciously, false. The readers of the *TIMES* understand perfectly well that the only important difference its editors have with many of their colleagues is the sectarian use of the term "homœopathic;" they know, too, that their arguments have always been presented with courtesy, and have been received in many instances with the misrepresentation and abuse which disgrace medical journalism.

The *TIMES* has not for years reported to the American Institute of Homœopathy or any other organization, and if the rule of the Institute required such report the committee had full authority to drop the journal from its list. The animus, therefore, was evident, and the purpose to snub the *TIMES* for daring to have an opinion on a point of ethics unquestioned.

SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA; pp. 1056.

COMPENDIUM OF THE LAWS RELATING TO PUBLIC HEALTH AND SAFETY OF THE STATE OF PENNSYLVANIA, Together with the Decisions of the Supreme Court and County Courts Relating Thereto. Compiled for the State Board of Health; pp. 174, octavo.

This "Second Annual Report" is a royal octavo volume in every sense, and does credit to all concerned in its issue, and all interested in the subject should possess a copy if it can be obtained. Dr. Benj. Lee, of Philadelphia, to whom we are indebted for our copy, has shown himself to be an organizer of great ability, besides being a most excellent secretary. Many of the articles are of practical interest and worthy a wide reading.

The "Compendium of the Laws," etc., is a suitable companion.

OUTLINE OF PLANS, with Illustrations, for Furnishing an Abundant Supply of Water to the City of New York from a Source Independent of the Croton Water-Shed, Delivered into the Lower Part of the City Under Pressure Sufficient for Domestic, Sanitary, Commercial and Manufacturing Purposes, and for the Extinguishing of fires, with Legal and Engineering and Other Papers. By John R. Bartlett, 1888.

A most elaborate and interesting presentation of an important undertaking, and worthy the consideration of all concerned.

KNOW THYSELF: A STUDY OF MAN. By Prof. J. D. Buck, M. D.

Messrs. Robert Clarke & Co., of Cincinnati, announce that they will issue shortly the above-mentioned work, in an octavo of 250 pp. The prospectus indicates that the text will be of great interest to students of medicine and others.

TREATISE ON THE DISEASES OF WOMEN. For the Use of Students and Practitioners. By Alexander J. C. Skene, M. D. With 251 engravings and nine chromolithographs. New York: D. Appleton & Co., 1888.

The general plan of the work is best given in the words of the author in his preface. "This book was written for

the purpose of bringing together the fully matured and essential facts in the science and art of gynecology, so arranged as to meet the requirements of the student of medicine, and be convenient to the practitioner for reference. The diseases peculiar to women are divided into three classes. Those which occur between birth and puberty; between puberty and the menopause; and those which come after the menopause. Each subject is briefly described, and histories of cases, typical and complicated, are given as illustrative of the disease or injury under consideration, together with the author's method of treatment. The history of gynecology and the discussions of all unsettled questions have been omitted. The author has given his views and methods pertaining to practical matters, believing that while they may differ to some extent from the general literature of the day, they will be found reliable in practice, and may be of interest to the specialist." The result of the author's labor is one of the most thoroughly practical and useful books which has passed through the medical press for the past twenty years. Dr. Skene has gained a wide reputation not only for his good judgment and originality of thought and method in the medical and mechanical treatment of gynecological diseases, but also for the excellent results which generally attend his operations. The author has given to the profession a book vastly superior in practical value to either Thomas or Emmett.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Consisting of Original Treatises and Complete Reproductions in English of Books and Monographs Selected from the Latest Literature of Foreign Countries, with all Illustrations, etc. Volume I, No. 1. Published monthly. Price, \$10 a year; single copies \$1.00. January, 1889. Wm. Wood & Co., New York.

The series of standard medical books from the best authors, which have passed through the press of Wm. Wood & Co., for the past ten years, have given even the poorest members of our profession an opportunity of adding to their libraries the best medical literature of the day, at a merely nominal price, an opportunity of which thousands have availed themselves. The new enterprise gathers together monographs from able writers, of marked scientific and practical value, and preserves them in well bound volumes. The number for January, the first of the series, contains a very able monograph by Jonathan Hutchinson, F. R. S., on "The Pedigree of Disease;" a very valuable one on "The Common Diseases of the Skin," by Robert M. Simon, M. D., and a very timely one on "Fourteen Clinical Lectures," by Dr. Ferrand. Each number will contain about 260 pages, and the whole can be bound in volumes to suit individual taste at the end of the year.

MEDICAL DIAGNOSIS, A MANUAL OF CLINICAL METHODS. By J. Graham Brown, M. D. Second edition, illustrated. New York: E. B. Treat, 771 Broadway.

The author confines himself strictly to diagnosis, studying the signs and symptoms of disease with the aids of chemistry and mechanics, and pointing out their diagnostic value. "A man," says the author, "who has clearly grasped a case in its entirety, who has separated the essential from the accidental, and who has ascertained the weight and bearing of each individual symptom, can go steadily forward in the treatment of his case without experiencing the harrassing doubt which arises from partial

or crude observation, and which, to the conscientious mind, cannot but prove a severe trial." The author first directs his attention to a general examination of the system, and then proceeds to point out the diagnostic value of symptoms found in the circulatory, respiratory, integumentary, urinary, reproduction and nervous systems. Each subject is treated with marked clearness and accuracy, and with as much detail as the limit of the volume will permit, or in fact as is necessary in a hand-book of diagnosis.

HEADACHE AND ITS MATERIA MEDICA. By B. F. Underwood, M. D. New York: A. L. Chatterton & Co.

Dr. Underwood briefly discusses headache under the divisions of anæmic, hyperæmic, nervous, reflex, rheumatic, toxic and catarrhal with a short description of the diagnostic symptoms of each variety, and the appropriate therapeutic remedy, closing with a condensed repertory. The author has condensed a large amount of practical and reliable information into a very small space.

THE NINETEENTH ANNUAL REPORT OF THE MANHATTAN EYE AND EAR HOSPITAL has been received, and it is prefaced by a good portrait of the late Dr. C. R. Agnew, one of its most active founders.

From this report we learn that the institution is doing most excellent work, and that the number of new patients treated during the year was 10,366, an increase of 791 over the previous year. We are pleased to note the scrutiny with which applicants are admitted, in order to prevent the admission of those able to pay for medical advice. We wish that all similar institutions would do likewise.

THE PHYSICIAN'S VISITING LIST. Published by P. Blakiston & Co., Philadelphia, has been so long before the public as to need no commendation.

THE HOMŒOPATHIC PHYSICIAN'S VISITING LIST AND POCKET REPERTORY. By Robert Faulkner, M. D. Published by Berrick & Tafel, for 1889, will be warmly welcomed by its old friends.

The private library of the late Mr. J. W. Barrow has been catalogued and is now for sale at 149 Second Avenue. The library contains a great many very old and rare books, and includes the best selections in the various departments of literature, science and history. The lovers of rare books and beautiful editions in artistic binding will find here a mine of wealth.

CORRESPONDENCE.

THE MEANS OF EFFECTING UNITY.

To the Editors of THE NEW YORK MEDICAL TIMES:

In the current number of your valuable journal appears an abstract of an address before one of the most dignified bodies of the Old School, by a leader in that school—the eminent Professor Roosa. His theme was "The Means of Effecting the Unity of the Medical Profession," an object which he believed could be best secured by the passage of a law constituting a State Board of Examiners for the license to practice medicine. "The degree of doctor in medicine should be conferred, as now, by each college according to its own ideas as to what constitutes a sufficient

education for the honor. But the liberty to practice medicine should not longer be left in the hands of bodies, however respectable and however distinguished, who are actually only responsible to themselves." "Let us educate all medical men up to a common standard," pursued the speaker, "and then all difficulties in the way of relations with each other will vanish."

Compare now with this the note sounded but a little while before from the opposite camp. At the last semi-annual meeting of the New York State Homœopathic Medical Society, as reported in the *North American Journal of Homœopathy*, Oct., 1888, the President, Professor Wm. Tod Helmuth, "insisted that we should maintain the dignity and position of the homœopathic school, and endeavor to render the name synonymous with medical science and medical art—a name to be respected even if the principles it embodies are not accepted by other schools of medicine; a name, in fact, of which we may be proud." And "the committee to whom was referred the address of the President, reported in favor of indorsing the sentiments and adopting the recommendations of the same."

Not a word during the whole meeting about making a common standard for the license to practice medicine! That line of division which the Old School proposes to obliterate, the New School, it would seem, is determined to maintain, *in perpetuo*!

If this be indeed Dr. Helmuth's position, I cannot but lament that it should be taken by such a man. Doubly crowned with laurels fairly won in the field of letters and of science, he unquestionably stands foremost among American homœopaths. But who can doubt that in a united profession his prestige would be still more enviable?

But let us look more closely at his recommendation. It may be taken as directly opposed to that of Professor Roosa. The latter urges that, under his plan, "there would be a common standard of fitness based upon a knowledge of the structure of the body and the recognition of disease. Differences in the modes of treatment might safely be left to themselves, were we once assured that all practitioners were qualified in essentials." From Dr. Helmuth's words, on the other hand, it might be inferred that "differences in the modes of treatment" constitute the sole essential to be regarded by himself and those whom he addresses. "Medical science and medical art are not in themselves prime objects to the advancement of which the energies of an aspirant should be directed they are only to be pursued so far as they may be brought into relation with an isolated therapeutic principle, which can be very successfully applied in practice with but little aid from any other knowledge. That is, a part is made equal to the whole; and a body of men supposed to be scientifically educated is told that the great object of its existence should be the exaltation of—a name!

Why this radical difference between the utterances, on kindred topics, of two gentlemen, equal in professional rank and attainments, and, presumably, in their powers of judgment?

In a paper read last summer before the American Social Science Association, the following was mentioned as one of "the stumbling-blocks in the way of every effort to achieve wise medical legislation?" "The obstruction from vested interests that consider themselves threatened, the incorporated schools that have some capital invested, and regard their power to confer a diploma operating as a license to practise medicine as their chief stock in trade."

Professor Roosa is connected with a school so amply en-

dowed as to be entirely independent of tuition fees. That in which Dr. Helmuth holds a chair is less fortunately situated—but rather than believe for one moment that this circumstance can have influenced his opinion, I prefer to interpret his injunction above quoted, in a different sense from that already remarked on. Let us suppose, then, that, by “rendering the name of homœopathy synonymous with medical science and medical art,” the speaker merely meant “Raising the standard of education in homœopathic colleges to the highest point attained in any country, and keeping it there.” In that case, and looking forward to the accomplishment of this most desirable object in his own city only, surely Dr. Helmuth will hasten to place himself side by side with Professor Roosa, as an advocate of independent State examinations for the license to practice—since how could the superior attainments of his pupils be more publicly and authentically proclaimed, or the name of homœopathy be lifted to a prouder height, than through the working of just such a system? “Sects in medicine” might thereby “be practically destroyed;” but every truth which they represent would only find its way to a wider and more unfaltering acceptance.

E. D. N.

EDUCATION AND TOLERANCE.

The subject of medical education has never attracted so much attention as at this time. The leading men and women of all schools of medicine are discussing the question. The leading medical journals in almost every issue have something on this subject. As a rule I find that all these discussions are unusually free from the intolerance and bigotry which was so common a few years ago.

In the latest issue of the *New York Medical Record*, one of the ablest allopathic journals, the editorial on “Medical Education” is very significant and noteworthy. It first supposes the absence of all laws governing the medical profession, which would allow any person to practice the art of healing as he saw fit. I quote the following:

“There is an element of selfishness, possibly, in the demand of the profession for laws regulating the practice of medicine, for such laws might tend to lessen competition by shutting out the quacks; yet that that is not the real motive for their request must be admitted by all fair-minded men. None knows so well as the educated physician what a power for evil the ignorant and unskilled practitioner is, and it is solely for the protection of the community that legislation of this nature is sought. If a child does not know enough to keep away from what is liable to do him harm, he must be restrained by others who are wiser than he, and if the members of a community are incapable of selecting a competent medical adviser, they must be prevented from selecting an incompetent one.

“*The only feasible way of getting round the difficulty, for the present at least, is to ignore the question of therapeutics while insisting upon a thorough knowledge of all the other branches of medical science.*”

The above italics are my own. I fully agree with the writer on this point: but I go further and assert that if the question of therapeutics is left out and the only qualifications are a thorough knowledge of all the other branches of medical science, it would put an end to all sects in medicine, and drive out nine-tenths of all the quacks and imposters. If a “Christian Scientist” was “thoroughly acquainted with all the collateral branches of medicine” his or her mental therapeutics might be useful, for as a mere “Chris-

tian Scientist” he would be incompatible. He would know when to recognize actual disease and when to recognize an assumed or imaginary disorder. He could then tell a boil from an illusion and an inflammation of the stomach from hysterical vomiting.

The old adage that “the world moves” was never better illustrated than by the recent action of the American Medical Association, which asserts that “hereafter no signature to codes shall be required!” This step is one which can never be retracted. It is one of those movements which come to stay.

At the last annual meeting (the 12th) of the American Academy of Medicine, one of the highest and best medical societies in the United States, the proceedings were of the highest importance. The members of that society are made up of the representative men of the profession in this country. At this meeting Dr. Henry Gerrich, of Portland, Me., says in his address:

“Never before has it been appropriate to address the academy as ‘ladies and gentlemen,’ but to-day it is my privilege to use this significant impression. It is not creditable to our country or in keeping with the liberality which theoretically characterizes our institutions, that discrimination should have so long been made against women in scientific institutions.”

Following this, the venerable Dr. Henry I. Bowditch of Boston, read a paper, entitled, “Tolerance and Intolerance in Medicine; Codes of Ethics; what Code should this Academy Adopt?” He took, first, the ground that tolerance and intolerance are, in the world at large, two great moral forces, and in the line of resultant of these two powers the world has been, and will be forever, carried forward. He then referred to history to show how these forms, at times, have actually changed places and made vice appear to be virtue, etc. Hence they must be used cautiously and understandingly.

Turning to medicine, he found that intolerance has almost invariably been ready to oppose any new idea. Ambroise Paré, Jenner, etherization and Morton, thoracentesis by Wyman's method, are brought forward as proving the above assertion.

The fact is, however, that toleration has invariably at length come to the rescue, and overwhelming success been given to any really good idea.

Bacteriological researches and antiseptic surgery, with their marvelous triumphs, were referred to as having produced a degree of tolerance of new ideas unknown before, and added to the importance of specialism. He next spoke of the American Medical Association, of his great interest in it in its early days, of the gradual tyranny of its “code,” even to the expulsion of the New York State Society which act produced evil results elsewhere than in New York; and finally he brought forward the action of the American Medical Association last year, preparatory to voting, that no signature to codes should be required hereafter! In connection with the New York imbroglio he referred to homœopathy and eclecticism, and expressed freely his disgust at the tyranny exhibited at the time of the expulsion of the homœopaths from the Massachusetts Medical Society. He gave his testimony from personal knowledge of some members of these two sects to the integrity and intelligence of those whom he knows. Finally he cited the fact of the great success of these two sects, consequent, in part at least, on our bigotry toward them. Under this course the regular medical profession has lost caste because of its wild attacks upon others rather than in the quiet and dignified

carrying onward of its own principles. He concluded this part of his subject by advancing what some may deem the heterodox opinion, that the Academy will not recover its just position until it rescinds the vote adopting the American code of ethics. He claimed that the only true code, viz., that of the gentleman, is the golden rule of "doing unto others as you would have them do to you," a rule which, though coming down from earliest ages before Christianity, was nevertheless made sacred by Christ's words. He closed in these words:

"Gentlemen of the Academy: If all of us would make that divine rule the guide of our professional relations, tolerance and intolerance would join hands in peace; and this academy, if it could induce all physicians to act upon it, would have accomplished one of its highest missions. God grant that this body may with each year of its growth, by the work of its individual members and by its own joint labors, tend to bring the whole profession of America up to higher grades of thought, of sentiment, and of action, so that we may at length really become what we have hitherto, but with unconscious falsehood, claimed to be—a truly liberal profession."

At the same meeting Dr. H. A. Johnson, of this city, read a paper on "The Influence of the Work of the Illinois Medical Practice Act Upon Medical Education." The Illinois State Board of Health was created in 1877. One of the first acts was the passage of a resolution that the diploma of a college graduating two classes in one year would not be considered in good standing after July 1, 1878. This compelled some of the prolific schools to adopt a single graduating term. In 1880 the board made a comprehensive study of requirements of medical schools.

In 1884 the board adopted a schedule of the minimum requirements for graduation in the State of Illinois. This has led to an increase in qualifications required by many of the schools. There are now 114 colleges which require evidence of preliminary study as a condition of admission. In 1883 there were only 45. Forty-three colleges now exact a three years' course, as compared with 22 in 1883. The board has now adopted the following resolution defining the phrase "Medical Colleges in good standing" to mean "only those colleges which shall, after the sessions of 1890-91, require four years of professional study, including any time spent with a preceptor, and three regular courses of lectures, as conditions of graduation, and shall otherwise conform to the schedule of minimum requirements heretofore adopted by the board."

One of the principle causes of efficiency of the Illinois Board was the fact that it was a "mixed" board. At this time the numbers who gain access to our ranks are not so numerous, but they are better qualified, and there are therefore not so many inferior men to struggle for existence. The percentage of graduates to students is lower, which means a higher standard of attainments.

I quote the above to call attention to the last paragraph. He alludes to the State Board of Health, which has in it one eclectic and one homeopathic physician. It is a tribute of an honest and honorable physician, who has always been unusually free from bigotry and intolerance.

At the last meeting of the New York Academy of Medicine, composed of men of the highest scientific acquirements, Dr. St. John Roosa read a remarkable paper on "The Unity of the Profession."

Let us now turn to the present position of the homeo-

pathic school. Ten years ago when the American Homeopathic Association met in this city, the homeopathic school was as noted for its bigotry and intolerance as was the regular school at that time.

In the opening address Dr. Carrol Dunham, of New York, startled the association by his masterly and liberal address on "Liberty of Thought and Action." It was a plea for tolerance, for freedom of opinion. This address gave great offence to a large portion of the homeopathic school, but it has been observed that at each annual meeting its members have showed that the seeds of the liberty of opinion scattered by that noble physician had grown good fruit. A few years after that address a small portion of members seceded from the parent society and formed the "International Hahnemannian Association." They claimed to be the only pure and unadulterated followers of Hahnemann, and their proceedings and conduct have since shown that they possess the essence of bigotry and intolerance to a remarkable degree.

Their conduct can only be compared to that of a body of men who should secede from the American Medical (allopathic) Association and cling to the tenets taught by Galen or Broussais.

At the last meeting of the American (homeopathic) Institute any one who listened to the reports of the bureau of surgery, gynecology, obstetrics, or hygiene would not have known that it was a homeopathic meeting. Only the reports on therapeutics and materia medica showed that they differed from the regular school of medicine. Even these were based on a broader and deeper foundation than a blind adherence to uncertain symptoms.

No one, except those who were informed as to advances in materia medica and therapeutics in both schools, can appreciate how rapidly they are coming together at this point.

It is true that members of each school complain that the other is appropriating their medicines, but this assertion is absurd. It is one of the most cheering signs of a possible medical unity. No sect in medicine can claim exclusive property in remedies. In science all facts are common property. Neither school can claim aconite, nux vomica, or any other drug belongs to them alone. They may not agree upon the method of using these drugs, but the end aimed at by both is the same—namely, the relief of pain and the prolongation of life.

None but quacks claim the exclusive use and knowledge of certain medicines or peculiar surgical appliances. All methods of cure, all remedies, all instruments, and all hygienic rules belong to the medical profession as a unit. *It is time that all sectarian distinctions were dropped.*

When I claim that I am a physician, I include the whole domain of the healing art. It is the true physician's right and duty to adopt any means known for the relief of suffering. Codes and special medical distinctions are empty bubbles. Select an educated and conscientious physician from each of the three great schools. Let them consult upon a case of sickness with no sectarian bigotry to bias their judgment and in the end they will not be far apart in their treatment. I have watched the progress of medical events for more than a third of a century, and I hope—yes, I believe that before another third elapses—the unity of the whole profession will be accomplished.

E. M. HALE, M. D.

[NOTE.]—The *Chicago Inter-Ocean* has devoted much space of late to the discussion of this subject. Its editorial is sound in principle from the standpoint of the layman,

* See December number of this journal for abstract.

and has the right ring. The following extracts are from its columns of interviews of prominent physicians, and are a fair sample of the prevailing sentiment with progressive men:

Dr. H. A. Johnson says: "So far as the individual is concerned, the relations between one another should be governed entirely by like and dislike, the same as between other persons; by the mutual confidence reposed in each other's practical good sense and ability. The question of schools is a temporary one. The science of medicine, like all other sciences, has been a progressive one. Theories have been formulated and have been made working hypotheses, but have always been changed as facts demonstrated their incompleteness or falsity. It will probably always be so, as medicine will never become an exact science like mathematics. The public have the right to expect that a physician shall be familiar with the well-established facts of medicine, such as anatomy, physiology, pathology, and chemistry, and that he shall also be familiar with the methods and means by which suffering is relieved and life prolonged. He should then be left to an honest application of this knowledge in accordance with his best judgment. I deprecate the existence of any term which indicates the adhesion to a theory—in other words to a pathist.

"The term 'regular,' as well as 'irregular,' should be discontinued in the medical profession. There is as great an objection to the use of the former as to the latter. The word physician is sufficient."

Dr. E. C. Dudley says: "A scientific physician should not ignore any known remedy. Speaking from the standpoint of one who does surgical work mostly, I do not see why the surgeon should refuse to remove a tumor, for instance, from a patient simply because she happens to have a physician in attendance who differs from him in his ideas touching the administration of drugs. Whenever, in the medical treatment of a surgical case, I have had occasion to consult with a homœopathic physician, I have been agreeably surprised to observe the disregard of homœopathy in his therapeutic ideas. This is an indication to me that the homœopathic profession is becoming regular.

"It would be impossible for me, with my ideas of scientific medicine, to hold a serious consultation upon a subject involving the life or death of an individual with a man who insisted upon the *similia similibus curantur* dogma, or upon any other dogma, as an exclusive guide to practice. The prime object of practice is to cure suffering and heal disease; therefore the question as to whom one should or should not meet over the bed of a patient ought to be decided not so much by the fixed rules of medical societies as by the individual conscience of the practitioner."

If Dr. Dudley would visit the drug-stores and inspect the prescriptions on file there from some so-called homœopathic physicians, he would be astonished at the result! Many self-styled physicians of this class are noted for the size of their doses of morphine, and many of the newer untried drugs are prescribed empirically by them with great frequency and in the maximum dose. And still they cling to the name.

Dr. A. Reeves Jackson said he deprecated very much the splitting up of the medical profession into schools. There is of course but a single science of medicine, though it is no more than natural that many men should have different ideas of its practice.

"These sects and isms should be abolished among the members of the medical profession, because they are misleading the public. For myself, I do not care how any

man practices medicine, so long as he bases it upon facts and not hypotheses. Physicians, of all persons, should be liberal. They deal with facts which are varying because the varying of the laws of health and disease; therefore no man should set up his own observation as against the observation of all other men. There can be no pathies and isms in science. Those things all result from partial observations and from being ignorant, or from ignoring other facts. Science is human and imperfect, and therefore susceptible of progress. In the interest of my patient I would consult with any physician I deemed honest and sincere."

Dr. J. E. Gilman Professor of Sanitary Science, &c., in Hahnemann College, says: "I think the pith of the whole matter is as the writer quoted by the *Inter Ocean* puts it: 'The only way is to ignore the question of therapeutics, while insisting upon a thorough knowledge of all the other branches of medical science.' The whole thing is simply a matter of practice and experience. A man ought to be well grounded in the science of physiology, anatomy, pathology, and all the kindred medical sciences before being allowed to practice medicine, the school of therapeutics he adopts being a secondary and purely personal consideration. There is no reason at all why there should be the slightest intolerance in the matter. For myself, I should be perfectly willing to consult with any gentleman who was qualified for the practice of medicine, no matter to what school of therapeutics he belonged—I include both sexes in that."

The *Inter Ocean* says editorially, Dr. Hale's letter to the *Inter Ocean* on "Medical Intolerance," and the opinions which it has elicited from other members of the profession, are worthy of note. That broad principle of tolerance which is expressed well in the Napoleonic aphorism, "the tools to him who can use them," permeates American thought and action, and is inherent to the laws and constitutions of the Nation and its states. It is not "In what manner does he use the tools?" but "What results does he accomplish with them?" that is asked as a test of one's fitness to be further intrusted with them.

M. O. T. TO G. L. F.

In answer to G. L. F. in regard to his ear case, permit me to say that I am always spoiling to have such a case presented to me for "dissection." I have practiced otology for sixteen years, and my conclusions based on that experience may be summed up in a few words:

That an ear drum may rupture as a consequence of an abscess—and heal without any remedy within forty-eight hours. This is not a common experience, I admit. It is best, however, to keep the ear clean. Remedies may be used but are unnecessary in many cases.

Some time since, a so-called homœopathic journal was sent out to the world from California, and one copy chanced to reach me. It contained among its clinical cases a suppurative ear report. The physician carefully applied a *strong solution of nitrate of silver* to the ear, and sent the patient away with *hepar sulph.*³⁰. The patient was finally changed to *silesia*³⁰, and the discharge ceased. Now in the logic of your critic, *hepar* or *silesia* cured the patient, but in the logic of an Old School physician, who might have used the former receiving the same good report from his patient—*eventually* the nitrate of silver cured the case, assisted largely by *kind nature*. Now I am not advocating the treatment herein given, but illustrating in a way to show how careful we ought to be in giving credit to the action of any remedy—or an *assumed* remedy.

M. O. T.

TRANSLATIONS, GLEANINGS, ETC.

Vegetable Rennet.—The idea that the protoplasm or living substance of both animals and plants is essentially similar, if not quite identical, has long been accepted by both physiologists and botanists. This similarity is most easily seen in the very lowest members of both kingdoms; in fact, for a very long time doubt existed in the case of many organisms—e. g., *Volvox*—as to which kingdom they should properly be included in. Even now it is hardly possible to formulate a definition of "plant" or "animal" which shall put all into their proper positions. When we go higher up the scale in both the animal and vegetable world, this difficulty, of course, disappears, on account of the differences of organization and development. It is not difficult even here to trace a remarkable similarity of properties in the living substance, which leads to the conception that not only is protoplasm practically the same in animal and vegetable, but that its activities in the two cases—that is, metabolic processes which accompany and are in a way the expression of, its life—are fundamentally the same. In both kingdoms we have as the sign of its life the continual building up of the living substance at the expense of the materials brought to it as food, and the constant breaking down of its substance with the consequent appearance of different organic bodies, which are strictly comparable in the two cases.

The vegetable protoplasm produces starch, the animal glycogen—both carbohydrate bodies of similar composition and behavior. In both organisms we meet with sugars of precisely similar character. The proteid bodies long known to exist in animals, and classed into albumins, globulins, albumoses, peptones, etc., have been found to be represented in vegetables by members of the same groups, differing but in minor points from themselves. We have fats of complex nature in the animal represented by oils of equal complexity in the vegetable, their fundamental composition being identical; even the curious body leicithin, so long known as a constituent of nervous tissue in the animal, having been procured from the simple yeast plant.

Perhaps the latest development of the same idea has been the discovery of ferments in the vegetable kingdom which are comparable in their action with the rennet which is obtainable from the stomach of many young animals, particularly the calf. In an extract of such a stomach taken while secretion of gastric juice is proceeding, or in the gastric juice itself, is a principle which has the power of curdling milk—a property taken advantage of by the farmer in the process of manufacturing cheese. The *casein*, which is the proteid concerned in cheese-making, is under appropriate conditions converted by this body into an insoluble form, which, for want of a better name, may be called briefly cheese. The conversion is not to be confused with the loose curdling which takes place when milk becomes sour from putrefactive changes or from the addition of an acid, for it is a true coagulation, resembling the clotting of blood. Now, recent investigations show us that in many plants a similar ferment exists, which possesses an identical power, producing, when added to milk, a clot which is quite indistinguishable from that which is formed under the action of animal rennet. The list of such plants is continually increasing, but they do not appear to be grouped at all on the lines of the recognized natural orders.—*Nature*.

Ice Lenses.—The London correspondent of *Le Moniteur de la Photographie* writes to that journal, that in the middle of the winter which has just elapsed, a student made a lens of ice, with which he lit the pipes of some of the skaters on the Serpentine, by means of the solar rays—an experiment, he says, which was first performed in the polar regions, by Dr. Scoresby, to the great astonishment of the sailors, for they could not understand why the ice did not freeze the beams of the sun. We may remark that Prof. Tyndall at times would set fire, at the Royal Institution, to a little heap of gunpowder, with rays from the electric arc, concentrated upon the powder by means of a lens of ice. His explanation was that, although ice absorbs rays of certain wave lengths, and is gradually melted thereby, other waves it does not absorb, and these latter produce the heating effects at the focus of the lens. It is wholly a question of the relative motions of the molecules of frozen water and the motions of the waves of light. When there is discord between the two, the discordant waves pass through the ice without absorption.—*Scientific American*.

Home Culture Clubs.—George W. Cable has an article in the August *Century* on the system of Home Culture Clubs recently started by him. We quote as follows: "To start these clubs anywhere requires no outlay nor any wide coöperation. Wherever any man or woman of the most ordinary attainments can gather two, three, or four others, in any sort or degree less accomplished, a club may be formed, and if necessary can be complete in itself; or it may join itself by correspondence to some group of clubs elsewhere, and have the benefit of making weekly reports and getting weekly the aggregated record of the whole group of clubs. Wherever there is such a group of clubs there should be a president and a secretary, and it will probably always be for the best that the secretary receive some small quarterly or semi-yearly compensation in consideration of a business-like attention to his or her duties. An unpaid secretaryship is probably too old a snare to need warning against here."

Treatment of Warts.—Dr. Roesen treats callosities and warts by the application of pure, crystallized salicylic acid. The acid is kept in contact by moistened boracic lint, and over all there is fastened a piece of gutta-percha tissue. The dressing is removed after five days, when hardened epidermis falls off.

Glycosuria from Mental Overstrain.—Dr. Milner Fothergill (*N. E. Med. Monthly*) says that diabetes does not necessarily progress with steady tread to the tomb, but may take its origin in small beginnings and deepen to death; or be arrested, according to what measures are taken. Glycosuria is therefore of deep significance. Nor is the difficulty to be met by gluten bread and almond biscuits. That is a narrow view of the subject. When a hard-working business man is the patient, a regular periodic urinary inspection should be made.

Fetid Sweating of the Feet.—The *Kriegs-Sanitäts Ordnung* recommends a powder composed of three parts of salicylic acid, ten of starch and eighty-seven of talc. Five grammes suffice for one application. The Prussian military laws prescribe a salicylic suet (salicylic acid, two parts; mutton suet, 100 parts).

MISCELLANY.

—Three living children were recently delivered in a Paris hospital, subsequent to the mother's sudden death.

—It is said that the people of India are able to perceive three hundred different shades of color not perceptible to European eyes.

—Dr. Strong, Chief of Staff W. I. Hospital, reports 765 patients under treatment during the month of November; mortality, 1.96 per cent.; 5,017 patients have been under treatment since January 1st.

—A certain fashionable Indianapolis lady visited an old friend, a Cincinnati doctor, accompanied by her daughter. "There is something the matter with Jenny's voice," remarked the anxious mother. After a careful examination, the doctor solemnly said: "Madam, your daughter has a mezzo-soprano." "What!" exclaimed the mother, bursting into tears, "then she is incurable; that's what carried the Emperor William off, according to Mackenzie." Fee paid, and doctor smiled.

—A newly-invented instrument called the dynamograph, "peculiarly fitted for the physician's needs," is described in the *Philadelphia Medical Times* of June 1, 1888. It is essentially a mechanical typewriter, but has in addition, by the mere movement of a switch, the increased efficiency of printing the message upon another machine separated by any distance from the first, so that the person sending the message and the one receiving it, have each a copy, precisely alike in every respect. The existent typewriter can only be used as such, while the dynamograph is at once a typewriter, a telephone and a telegraph. The advantages over the telephone are that the message may be sent at any time, even if there is no one present to receive it, and, when the physician returns to inspect his instrument, he will find there all messages sent in his absence. Furthermore, by an ingenious arrangement, no other person using the line can read the message except the one for whom it is intended.

—According to M. Moulé, at the Congress for the Study of Tuberculosis, domestic fowls are frequently the subjects of tuberculosis, the disease often involving the abdominal organs. *Paté de foie gras* is sometimes almost a pure culture of tubercle bacilli.

—Dr. Stocquart, in the *Paris Médical*, calls attention to an easy method for preventing the lenses of instruments from becoming dim while being used to examine cavities. It suffices to spread a drop of glycerine on the lens. This done, it can be introduced into the throat, for example, without becoming dim.

—Prof. Von Nussbaum, of Munich, in an article on "The Internal Use of Ichthyol," in Liebrich's *Therapeutischen Monatsheften*, says: "In conclusion, I must remark that ichthyol is an excellent example of Hahnemann's maxim, '*Similia similibus*,' for, while it acts in a marvelously curative manner on eczema, there are constitutions in which it will produce eczema."

—The Cebou monkey is said to be able to eat its own weight of bananas in the twenty-four hours.

—100,000 copies of Sir Morrell Mackenzie's book are said to have been sold in the first fortnight of its issue. The author is said to have received a long letter from the Empress Frederick approving the work and confirming some of his statements from her own knowledge.

—A Christian science teacher defines cancer as "an accumulation of discordant thought."

—We call the special attention of the profession to the "Home Made Delicacies for the Sick," prepared by Mrs. J. W. Barrow, 149 Second Avenue. All of these preparations are made from the finest materials, and are endorsed by all who have used them, as not only the best in the market, but the very best which can be made.

—A writer in a French journal says an atomized ether spray, directed on the region about the external auditory meatus, will produce through the distribution of the trigeminus an anaesthesia quite sufficient to annul the pain of drawing teeth.

—Dr. Dixon says in the *Medical Review* that fifteen grains of antipyrin in a wine glass of water just before retiring effectually relieves all symptoms of chordee.

—Mrs. George Hirsh, of Dallas, Texas, recently gave birth to six children, four boys and two girls, all strong and healthy.

—The *Scientific American* says "beer drinking in this country produces the very lowest kind of inebriety closely allied to criminal insanity. The most dangerous class of ruffians in our large cities are beer drinkers."

—Dr. Taylor, in the *British Medical Journal*, details the successful treatment of lupus by the application of the liquor sodii ethylatis. The application once a day for three consecutive days. The scabs in a short time fall off leaving a perfectly healthy surface.

—Rhus aromatica, or the fragrant sumach, which grows all through the Northern States, is strongly recommended by French physicians for incontinence of urine in atonic states of the bladder. From ten to fifteen drops of the tincture are given three times a day.

—Dr. Wyss, of Geneva, says for more than two years he has treated numerous cases of chronic Bright's disease with from five to ten drops of the ethereal tincture of perchloride of iron in a glass of water three times a day. In more than half the cases the albuminuria and other symptoms rapidly disappeared.

—Mr. Montagu Percival states he has recently treated twenty-four cases of laryngismus stridulus with antipyrin, two grains every hour. In only one case was he obliged to increase the dose to five grains.

—Crushe's slag is now proposed in London as a deodorizer for fecal matter. It is very porous and is valuable as a manure on account of the phosphoric acid it contains. In a sample of fecal matter treated with it not the slightest odor could be detected. The supply is practically inexhaustible and is very cheap, \$1.25 to \$2.00 a ton.

—Dr. A. Nordmann, Basle, Switzerland (*Lancet*) gives a warning against the reckless way in which enemata are given. He describes twenty-five bowel lesions due to this cause. They include three complete perforations and ulcers, and wounds of various depths and sizes. The causes of these lesions seem to have been defective instruments and ignorance.

—An Ohio physician, who brought home for microscopic examination a portion of the throat membrane of a diphtheria victim, permitted his children to look at it under a glass cover. Shortly after his entire family was stricken with diphtheria, and two of his children and himself have since died. Five children are yet down with the disease and are in a critical condition.